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NEW HAMPSHIRE

SOLITAIRE, No. 6548

Milk and Butter Record



From January 1, 1901, to January 1, 1902

of George H. Yeaton's Herd of Ayrshires

Hickory Hill Farm, Rollinsford, N. H.

Post Office Box 202, Dover, N. H.

Name of cow	Herd Book No.	Age in years	Pounds of milk	Per ct. of butter fat.	Lbs. of butter
Lukolela	12357	7	9104	3.64	387
Yucca	11470	9	9099	3.76	407
Xoa	11469	9	9028	3.69	389
Miss Olga	13984	4	8715	4.45	452
Biona	12351	8	8691	3.61	366
Ponema	13983	5	8573	4.70	469
Annie Bert	9670	14	8223	3.59	345
Oke Mar	13307	5	8129	4.00	379
Gladiola	12352	8	8054	3.63	341
Olah	11471	9	8045	3.45	325
Gebic	13981	5	7875	4.09	357
Ouija	11882	8	7355	3.61	310
Creamer	15137	2	7335	4.00	342
Olo	15136	2	6629	3.40	263
Iona S.	12350	8	6379	4.51	336
Lady Cudlip	15134	3	6346	4.25	315
Yuba Lass	12353	7	6193	3.53	255
Fifi	14548	4	5986	4.09	285
You're Mine	15133	3	5832	4.04	275
Yensie's Best	15138	2	5796	4.06	275
Garda	13985	4	5744	3.72	243
Rayn	12358	7	5630	3.65	240
Yensie	10663	11	5024	3.70	217
Freda	11134	10	4920	3.48	200

NEW HAMPSHIRE AND NEW YORK

George C. Clark,

ORFORD, N. H.

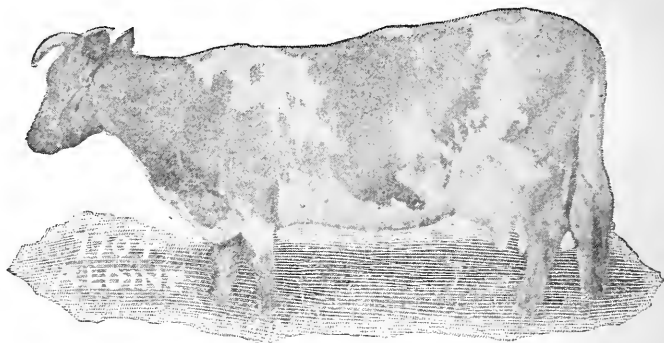
Bull Calves for sale, from carefully selected foundation stock, bred for the highest ability for dairy production.

Elm Valley Herd, Hyrshire Cattle,

W. G. TUCKER, Proprietor.

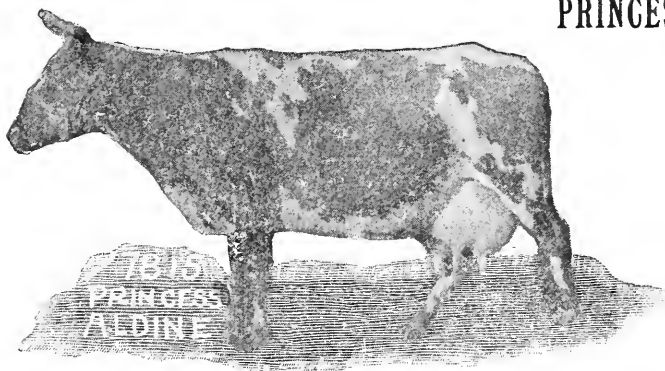
ALDINE
7704

Milk record
of one year
when 14
years old
9282 lbs.



PRINCESS ALDINE
7815

Milk record
of one year
when 10
years of
age
14,300 lbs.



The Foundation of the Herd.

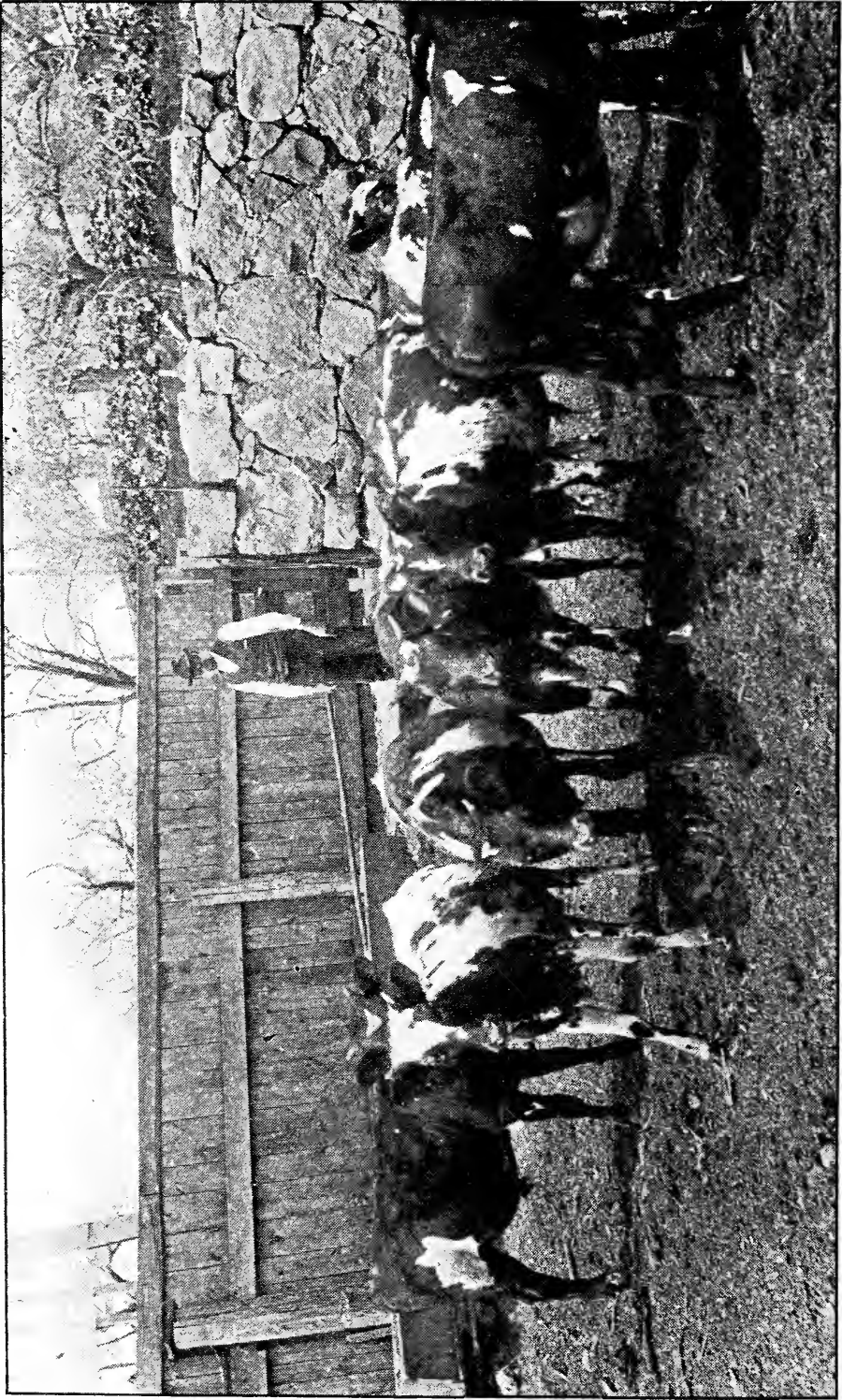
Thirty Head for Sale from 1 year to 8 years of age.

W. G. TUCKER,

Allegany Co.

Elm Valley, N. Y.

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HAYES' CALVES.

1910 1911 1912
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1916 1917 1918
1919 1920 1921
1922 1923 1924

Year Book

of the

Ayrshire Breeders



For the year 1902.
Containing the pro-
ceedings of the Annual
Meeting, a recent Milk
and Butter Records a
and General Informa-
tion about Ayrshires
and the Ayrshire Breeders'
Association.

BRANDON, VT.
BRANDON PUBLISHING COMPANY,
1902.

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History

PROCEEDINGS

The Twenty-seventh Annual Meeting of the Ayrshire Breeders' Association was held at the Crown Hotel in Providence, R. I., January 15, 1902, in response to the call of the Secretary, and was called to order by the President, L. S. Drew, at 2:30 p. m.

The minutes of last meeting were read by the Secretary and approved.

The President appointed S. M. Wells, J. O. Magie and J. F. Converse Auditors to examine the accounts of the Treasurer and Secretary.

The roll call was responded to by the following members present :

Baton, John A.	Brown, Obadiah
Converse, J. F.	Copeland, Davis
Doe, Charles C.	Dorrance, Henry & Son
Drew, L. S.	Fletcher, Etna J.
Hayes, Charles H.	Joslin, H. S.
Magie, J. O.	Palmer, Edwin G.
Piper, Anson C.	Sherman, Everett B.
Smith, Daniel A.	Turnbull, Thomas, Jr.
Wells, S. M.	Winslow, C. M.
Winsor, N. S.	Yeaton, Geo. H.

The following members responded by proxy :

Arnold, Geo. W.	Bacon, P. K.
Bement, George	Betts, Henry
Blodgett, J. W.	Bowker, George H.
Bowen, Edward S.	Boynton, C. H.

Brodie, Hugh	Butterfield, Jerome F.
Byrne, Christopher	Casterline, J. Andrew
Clark, George C.	Cook, Howard
Cookingham, H. W.	Crozier, William
Davidson, George	Fletcher, George A.
Garvin, W. R.	Gold, T. S.
Griffin, J. H.	Hinson, W. G.
Holt, E. A.	Hopkins, Willis W.
Hubbard, George D.	Hunt, A. W.
Irving, Thomas	Larned, J. H.
Leach, Philo	McCrea, Robert
Milliken, Charles R.	Peck, Cassius
Peck, C. L.	Peirce, F. C.
Pierce, George H.	Pike, George E.
Scott, John W.	Sears, B. C.
Shimer, B. Luther	Smith, Oliver & Son.
Smith, Peter D.	Stevens, Wm. Stanford
Stewart, John	Stowell, L. D.
Surget, James	Topping, Robert R.
Tschudy, Fred	Tubbs, Ambie S.
Underhill, C. S.	Venable, A. R. Jr.
Viner, William	Watson, H. R. C.
Whitingham, W. R.	

REPORT OF SECRETARY

There has been more than usual interest manifested in Ayrshire cattle during the past year, especially by those seeking information and an unusual inquiry as to where Ayrshire cattle can be found near the inquirer, which is easily answered by sending a copy of the Year Book. We placed an advertisement in a few of the leading agricultural papers saying that the Year Book could be obtained by application and a large number of copies were disposed of in that way, going to people for

the most part unacquainted with the merits of the breed. We took a great deal of pains to make the book as attractive as possible and to contain all the general information needed to attract a stranger to the breed.

We still find great difficulty in obtaining desirable photographs from which to make our halftones to print the cuts. We have a good many photographs sent, but many of them are too small and many more are not in a good position to make an attractive picture, and here let me say that there are not many good animal photographers, for it needs a very different skill to catch the animal at the right time and favorable position to bring out an attractive picture than to take ordinary pictures.

DEATHS

The following deaths have been reported during the past year :

Albert Cooper, Java Village, N. Y.
 P. Lorillard, Jobstown, N. J.
 W. R. Pierce, Middleborough, Mass.
 William H. Stickney, Brownfield, Me.
 Alfred J. Taylor, Worthington, Mass.

NEW MEMBERS

The following new members have been added to the roll of membership :

C. A. Abell, St. Albans, Vt.
 Geo. C. Clark, Orford, N. H.
 Charles W. Emmerson, Charlotte, Vt.
 E. A. Holt, Hudson, N. H.
 W. P. Schanck, Avon, N. Y.

C. E. Stewart, Lenox, Ohio.
 Geo. F. Stone, Littleton, Mass.
 F. C. Peirce, Concord Junction, Mass.
 W. C. Nye, East Barre, Vt.
 A. H. Paget, Lakeville, N. Y.
 Elmer F. Pember, Bangor, Maine.

HOME DAIRY TEST FOR 1901

In accordance with the vote of the Association at its last meeting your Committee made up a list of prizes and rules for a twelve months' dairy test for butter to be under the official direction of the Experiment Station in the state where the herd entered was located. Seven herds were entered and are being tested, owned by the following breeders:

L. S. Drew, South Burlington, Vt.
 Dr. Wm. Stanford Stevens, St. Albans, Vt.
 L. C. Spalding & Son, Poultney, Vt.
 Geo. H. Yeaton, Dover, N. H.
 E. J. Fletcher, Greenfield, N. H.
 W. V. Probasco, Cream Ridge, N. J.
 C. M. Winslow & Son, Brandon, Vt.

This is by far the most satisfactory test that has ever been made with Ayrshire cows, excepting perhaps the Model Dairy Test at Buffalo of which we will speak later.

There has always been great difficulty in obtaining any knowledge of the dairy ability of individual Ayrshire cows, either from private or public tests and nothing official in butter for a longer period than seven days, but this test will give a number of official tests for butter and milk for a full year, which should give the Association some valuable data from which to make known to the public the reliable merits of the breed.

The public wants information, reliable, and for as long a period as possible, and it is this more than anything else that will attract buyers, for the buyer wants to know what your cow can do at the pail. I know of no better way for the Association to spend a reasonable amount of money yearly than in inaugurating lengthy official tests of Ayrshire cows, and one that will return so much to the individual breeder and notoriety and fame to the breed in general.

I believe it will do far more good than any amount of special premiums offered at fairs for Ayrshires in the ring.

Of course it is pleasant to have a lot of fine Ayrshires shown in the ring and shows a lively interest in the breed in that locality, and would seem to indicate that the breeder who won the first premiums had the best Ayrshires, and give him a lift in notoriety for his herd, but is of no especial value to the breeders in general unless the fair is a large one and there is a large and attractive display of Ayrshires that commends itself to the general public, but official milk and butter records, while they attract the public attention to the individuals making the record, also show conclusively that there is dairy merit in the breed and help every breeder who owns an Ayrshire cow.

FAIRS FOR 1901

The exhibition of Ayrshires at the various state and national fairs the past season was, on the whole, commendable as far as heard from. The Pan-American at Buffalo was the largest exhibition of Ayrshires and made a fine display of Scotch bred Ayrshires, which had the characteristic white color predominant, but in other respects seemed to have been selected with a view

of pleasing the American taste, for they had longer teats than are usually found on Scotch bred Ayrshires. They certainly made a beautiful display in the ring.

There were but few herds from the States and those entirely from the state of New York, and many of the animals shown from the States' herds were strongly represented by Scotch Ayrshires with only a few really American bred Ayrshires and still fewer States bred.

Unfortunately, Mr. Converse's best show cow had not calved and his bull had been dehorned which in a close contest worked against him, but the cow that he led into the ring showed by far the greatest milking capacity of any cow shown and was awarded the first premium.

At the Vermont State Fair as usual they led all breeds in numbers shown and attractiveness of display, having four full herds beside scattering individuals.

The display at Brockton, Mass., was a credit to the breed, being the most numerous and most attractive, having five full herds.

THE MODEL DAIRY

The Model Dairy at Buffalo was the means perhaps of the most good to the Ayrshire breed of cattle of anything that was done the past season and great credit is due the Canadian Government and to the Canadian Ayrshire breeders for stepping into the gap and saving the reputation of the breed.

It was voted at the last annual meeting to appropriate \$500.00 to pay the expense of placing five Ayrshire cows in the Model Dairy, the intention being to place five States and five Canada cows in the Dairy. Your Committee immediately sent word to every known

owner of an Ayrshire cow to see what could be done in the way of obtaining a loan of an Ayrshire cow that was to calve about May 1st or a little before and whose record for dairy ability had been kept and was sufficiently good to warrant placing in a six months' breed contest.

Your Committee felt that we should know something of the merits of a cow that was to risk the reputation of the breed for a six months' test and that it would be better to not enter at all than to enter handicapped with untried cows.

The time was short in which to obtain them and between the vote of the Association and May 1st did not give time to find out any new facts about the cows, and if we took any we must take those that had already made either public or private records.

A number of the breeders offered cows, but did not know what they could really do, but thought they were good cows.

Other of the breeders had cows that were tested, but were due to calve at a wrong time for this test, and of those that were tested only four seemed to be desirable for this test, and as we could not obtain the fifth without placing an inferior cow we thought best not to send any, which should teach the Ayrshire breeder a lesson of knowing what sort of a dairy cow he is milking.

The Association is in better shape today with its 7 herds being tested, and if we continue the next year with a test, the World's Fair at St. Louis should be provided with a set of Ayrshire cows prepared to make a record that is representative of the breed.

A cow, to enter a test of that kind, should be capable of giving at least 6000 pounds of milk and 300 pounds of butter in six months.

I hope the Association will at this meeting make such arrangements as will enable the Ayrshire cow of the United States to show what she can do in the dairy.

While the Ayrshire cows at the Model Dairy were a credit to the breed, I believe it would have been a greater credit if there could have been home bred cows tested, rather than foreign bred and particularly such as were so recently imported that they were not acclimated, but handicapped as they were they stood second for milk and third for butter, and I have seen an ingenious table prepared to show the test from a creamery standpoint that placed the Ayrshire first.

THE SECRETARY— The Experiment Stations throughout the United States have manifested an interest in Ayrshire cattle and several Stations have placed them in their barns and have published the results of their tests. Other Stations are looking for Ayrshire cows to purchase for experimental purposes and it seems very much for the interest of Ayrshire breeders to give them all the help and assistance possible. The Stations have always cheerfully responded to any and all the requests of our Association for official help in testing cows at fairs and at the barn of the owner, doing the work either free of charge or making a light charge for those whom they sent out as agents, and charging nothing for Station work in the laboratory. It seemed to your Executive Committee that it would be proper to recognize the friendly feeling manifested by making the Stations honorary members of the Ayrshire Breeders' Association and in accordance with the recommendation of the Executive Committee I offer the following resolution :

That such of the Experiment Stations of the United States as are breeding and owning Ayrshire cattle and desire to become members of the Association and register their Ayrshires be enrolled as Honorary Members and allowed to register at member's rates.

(Unanimously adopted.)

DAIRY TEST OF THE BREEDS AT ST. LOUIS IN 1903

THE SECRETARY—It was recommended by the Executive Committee that a sufficient appropriation be made to allow the Ayrshire breed to compete in the Breed Test that is expected to be made at the World's Fair at St. Louis in 1903, and that the Association appoint a Committee to take the matter in charge.

THE PRESIDENT—You hear the recommendation of the Executive Committee. Are there any remarks to be made on the motion.

DR. TURNBULL, JR.—This in my judgment is a very important matter and needs the careful attention of the Ayrshire breeders as it is in all probability to be the hottest fight between the different dairy breeds the world ever saw.

This fight began at Chicago at the World's Fair, was again taken up at the Pan-American, and is on stronger than ever for St. Louis. Nothing has ever been definitely settled as to which of the dairy breeds, all things taken into account, is the best for the farmer and dairyman to buy.

It has always been the generally accepted opinion that for a purely butter cow the choice lay between the two branches of the Channel Island cows, some liking the Jersey and some preferring the Guernsey but the

test at Buffalo last summer threw a firebrand into their midst by presenting the Ayrshire as a strong competitor for dairy honors in the line of a butter cow, and I hope the Ayrshire breeders of the United States will be prepared to send a set of Ayrshires to St. Louis that will place the reputation of the breed where it belongs and I would amend the motion by appropriating not to exceed \$1500.00 for paying the expense of placing a herd of Ayrshire cows in the Breed contest at the St. Louis World's Fair, and that the Executive Committee appoint the committee to have this matter in charge.

MR. DOE—In seconding this motion I would heartily endorse all that has been said in regard to the importance of the Ayrshire breeders being prepared with suitable cows for the Committee to make their selections from, and have them in proper condition to enter this test.

MR. HAYES—If we are to have cows ready for this test now is the time to begin to prepare them for the test. This is no ordinary test, and the cows should be just exactly right in every point, as to age, time of calving, condition accustomed to a grain feed, naturally hearty and with a vigorous appetite for they will have to be sent along at a fearful pace and for all they are worth, in order to win, and win they must if they go in as the standard bearers of the breed, win or die.

I second the motion.

(Motion unanimously carried.)

Afterwards at a session of the Executive Committee the following Committee was appointed: C. M. Winslow, J. F. Converse, Dr. Thomas Turnbull, Jr.

SPECIAL PREMIUMS AT ST. LOUIS.

THE SECRETARY—It was recommended by the Executive Committee that the Association appropriate a sum of money as special premiums for Ayrshire cattle shown in the ring at the Worlds Fair at St. Louis in 1903.

THE PRESIDENT—What have you to say on this motion gentlemen.

MR. CONVERSE—It is my opinion that the Association should do something for this Fair to encourage a show of the breed that will be a credit, and I would second the motion, with an appropriation of not to exceed \$500.00, and that a committee be appointed by the Executive Committee to arrange for the terms on which the Association offer the special premiums.

MR. WELLS—I would second the motion and suggest that the Committee to be appointed make an effort to have a creditable exhibit of Ayrshires shown from the States.

THE PRESIDENT—I would like to hear from Veteran Brown on this subject.

MR. OBADIAH BROWN—I should approve of appropriating a reasonable sum to encourage a good show of Ayrshires in the ring at the fair at St. Louis.

(Motion unanimously carried.)

At a later meeting of the Executive Committee the following Committee was appointed to take charge of this matter: C. M. Winslow, J. F. Converse, Charles C. Doe.

HOME DAIRY TEST FOR 1903

THE SECRETARY—It was recommended by the Executive Committee that the Home Dairy Test of 1901 be continued for 1902 on the same terms with the same appropriation and the same Committee, the following being a copy of the last year's plan :

AYRSHIRE BREEDERS' ASSOCIATION

HOME DAIRY TEST FOR 1901

The Ayrshire Breeders' Association offers the following premiums for cows or herds of Ayrshires making the best records for butter for one year under the conditions hereafter named: For individual cows, \$30.00, \$20.00, \$10.00; For herds of five cows each, \$75.00, \$50.00, \$25.00.

CONDITIONS OF TEST

1. All animals competing must be registered in the Ayrshire Record and stand on the books of the Association as owned by the person competing.

2. The year's test will commence April 1, 1901, and notice of proposed entry to tests must be sent to the Secretary of the Association not later than March 15th, so as to allow time for arrangements for test to begin April 1st.

3. Each contestant shall be allowed to name from five to sixteen cows to be tested through the year, and at the end of the year he may select any three of these for the individual cow prizes and any five for the herd prizes, but shall not select the same cow for both individual and herd prizes nor shall he be allowed to duplicate entries.

4. At the end of each month every contestant shall report to the Secretary of the Association upon blanks furnished them for such purpose by said office :

a—A complete record of the weights of each milking.

b—An approximate statement of the amount and kind of food given the animals, and as to the manner of stabling and care of same, including the dates of service.

A full statement for the first month, and after that enter on the blank for that month any changes in food or care as they occur from month to month through the year.

5. About the middle of each month the contestant shall take a composite sample of all the consecutive milkings for two consecutive days of each cow in the test and send to the Experiment Station in the state in which the animal is located or to such place as may be directed or approved by the Committee in charge of the testing, the result of such tests to be reported by the tester to the Secretary of the Association.

6. These tests shall be under the supervision of the Committee appointed by the Ayrshire Breeders' Association but any member of the Committee owning animals competing in said tests shall be barred from having supervision of his own test or tests. All cows shall be wholly under the control of the owner so far as feeding and general treatment are concerned.

7. All the expenses connected with the tests shall be paid by the contestants except those incurred by carrying out the provisions contained in Rule 8. About all the expenses incurred by contestants will be the express charges on samples of milk sent monthly by him to his Experiment Station, and a set of pint jars in which to send the samples.

8. At such times as the Committee supervising said test or tests shall see fit, but at least twice during the year, they shall send anyone whom they may deputize,

to visit the herds from which animals are entered, to weigh and test the milk from cows competing, the agent sent being approved by the Experiment Station doing the testing for that herd.

9. The results of each year's tests shall be computed in the following manner: The weights of milk produced each month shall be multiplied by the per cent. of butter-fat as shown by the official test for that month and the amount of butter computed by the Experiment Station method of the addition of 1-6th, and the sum of the results thus obtained shall be the year's record. The milk will be also tested for per cent. of total solids, but this, however, will not be considered in making the awards which will be on amount of butter only.

The statistics obtained from the above tests will be of inestimable value to all breeders of Ayrshires because, covering a long period of time and being official, they will show to the public the value of the Ayrshire cow by the year in quantity of milk and butter and per cent. of fat and total solids and an approximately correct idea of the food and care which has been given to obtain such results.

It is earnestly hoped that this opportunity for an official test of Ayrshire cows will be very generally responded to by the owners of Ayrshire cows, that we may obtain some valuable statistics to publish in favor of the Ayrshire cow. The Secretary is frequently inquired of for official yearly records of Ayrshire cows and there are none.

C. M. WINSLOW,
THOMAS TURNBULL, JR.,
JOHN W. SCOTT,
Committee on Home Dairy Tests.



MISS OLLIE. 12039.



CLIO ROSE, 7525.

THE SECRETARY—I believe there is no way the Association can appropriate money which will return so large a dividend to all Ayrshire breeders as in encouraging official tests of Ayrshire cows in a dairy line, and the longer the tests the more valuable, because they more clearly show the real cow and what she is and what she can do. A year's test is of far more value than a seven days' test, because some cows can be made to show a wonderful yield for the short time of a week or so, but when pushed along for fifty-two consecutive weeks she has not the necessary staying quality to make her anything more than an ordinary cow, and as it is not for a week or a month that we want a cow, but for a full year, so a full year's test is what we want to help us in our selection for breeding.

I hold in my hand the record of the seven herds that are in the last year's test and I believe this record is of great value to all the breeders of Ayrshire cattle, because in it are some very fine records that will do much good in establishing the reputation of the Ayrshire cow as a dairy cow, and I hope the Association will continue the test for another year and that many more herds will avail themselves of this grand opportunity to help themselves and help boom the breed, and I believe there is nothing we can do that will do so much to attract buyers as an abundance of proof that the Ayrshire is a noted dairy cow, of dairy ability second to none. If we had known as much about the dairy capacity of the Ayrshire cow a year ago when we were looking for cows for the Model Dairy at Buffalo, we would not now, in my opinion, be bemoaning our not having had a hand in the Ayrshire test at Buffalo.

DR. TURNBULL—This dairy test that we have been running for the past year has given me strong hopes that we are on the eve of a different standing in the dairy world as a breed, and that we are waking up to the opportunities we have within our grasp and that another year will enable us to show to the world that there are some Ayrshires that are wonderful cows at the pail, and that the average run of them are more profitable than ordinary cows.

MR. HAYES—I would like to amend the motion by imposing a fine of \$100.00 on every Ayrshire breeder who fails to enter the Home Dairy Test for the coming year. (Laughter.)

A MEMBER—I would move that Mr. Hayes be appointed a committee of one to collect the fines.

(It was voted unanimously that the Home Dairy Test be continued for the next year beginning April 1st, with the same appropriation and the same committee.)

NEW FORMS FOR REGISTRY

MR. CONVERSE—I would like to suggest that the Secretary adopt a different form of Registry Certificate, and have it larger than the one we now have and more showy.

Other associations have Certificates of Registry that are more attractive than ours and have more paper and more to them. These are small and easily lost, and are not showy enough when you give them to a purchaser.

MR. DOE—I would also like to suggest that a Certificate of transfer of ownership be sent to the purchaser instead of the postal now in use.

THE SECRETARY—I understand the Association wants more style used in its forms used in registry, and I see no objection to it and on the other hand there are many advantages in having a changed set of forms all around, beginning with the application for registry and application for transfer, and it is a complete system that I have had in my mind for a year or two working up to perfection, and it can be easily placed in operation only it takes more labor and more time and more cost all around, but is really an improvement. We have from time to time added safeguards to our system of registry to prevent errors by mistake or design, but in one point we are still at fault, and that is our lack of identification of animals recorded. There has been an improvement on the part of several breeders, and there would be no difficulty in identifying their animals from the description given in the Herd Book, but many still give a very vague description, simply giving red and white or white and red to all their animals, and so far as the color description goes, any animal might be taken for any other animal.

I have had in my mind a form of application for registry that would enable any animal to be identified, and save possible confusion, but it would make more work for the breeder and make more work all around, but I should be glad to see it done and if a change of forms on the one side is desired why not make a complete change and have it as near right as possible, and acting on the suggestion made I will, as soon as practicable, make a complete change in the forms used, both for application and return certificates.

ADVANCED REGISTRY

THE SECRETARY—It was recommended by the Executive Committee that the Ayrshire Breeders' Association at this meeting adopt the Advanced Registry and appoint a committee to frame rules and regulations and attend to starting the testing for the Registry by next April. This is clearly an advance move on the part of Ayrshire breeders and one from which we may hope much in connection with the Home Dairy Tests.

The time has come with all dairy breeds when the public wants to know more about a cow or a bull than that it is pure bred or even that it is a physical type of the breed.

The public wants to know more about it than that it may have won first premiums in the ring, for this does not always insure a good dairy cow, but what the public wants to know today is where can dairy cows of high excellence be found.

It has taken the Ayrshire breeders a long time to awake to the necessity of finding out for themselves what kind of dairy cows the Ayrshires are and as long a time to get themselves and their cows in shape to let others know the real dairy value of their cows, but it looks now as though the Ayrshire breeders were getting into line to place their cows before the world in their true position.

(The motion was unanimously adopted.)

C. M. Winslow, George H. Yeaton and Charles H. Hayes were appointed as the Committee.

THE GROUT BILL

THE SECRETARY -- The National Live Stock Association have sent an earnest petition to the Ayrshire Breeders' Association to organize against the passage of the Grout Oleomargarine Bill in Congress, and I would like to move that the Ayrshire Breeders' Association place itself on record as in favor of the passage of the Grout Bill and hereby request Congress to pass the bill.

(Motion unanimously adopted.)

AMENDMENT TO BY-LAWS

THE SECRETARY—It was recommended by the Executive Committee that Regulation 10 be changed by the addition "That the surviving member of a firm be the member of the Association, and that no firm name shall have the right to register under a firm where the herd is divided and has two addresses."

(Motion adopted.)

REPORT OF TREASURER

Balance on hand Jan. 1, 1901,	\$23 68	
Received from sale of books,	66 74	
	<hr/>	\$90 42
Postage and express,	\$ 1 84	
Deposited in bank Aug. 15,	40 00	
Deposited in bank Jan. 1,	48 02	
	<hr/>	\$89 86
Cash balance in hands of treasurer,		<hr/> \$0 56

Balance bank book Jan. 1, 1901,	\$3759 72	
Dividend May 1,	75 18	
	<hr/>	
	\$3834 90	
Deposited Aug. 15,	40 00	
Dividend, Nov. 15,	77 08	
	<hr/>	
	\$3951 98	
Deposited Jan. 1, 1902,	48 02	
	<hr/>	
		\$4000 00
Total funds in hands of Treasurer,		<hr/>
		\$4000 56

Respectfully, N. S. WINSOR.

PROVIDENCE, R. I., Jan. 15, 1902.

We have this day examined the account of N. S. Winsor, Treasurer, and find it correct.

J. F. CONVERSE,	} Auditors.
S. M. WELLS,	
J. O. MAGIE,	

SECRETARY'S ACCOUNT

Ayrshire Breeders' Association in account with C. M. Winslow, Secretary.

Cash on hand Jan. 1, 1901,	\$ 427 96
Received for entries and transfers,	1310 51
For pedigree blanks,	2 00
For milk records,	3 50
For Herd Books, Vol. 13,	4 25
For membership fees :	
F. C. Peirce,	25 00
C. E. Stewart,	25 00
W. C. Nye,	25 00
A. H. Paget,	25 00

W. P. Schanck,	\$25 00
Elmer F. Pember,	25 00
Geo. F. Stone,	25 00
E. A. Holt,	25 00
C. A. Abell,	25 00
C. W. Emerson,	25 00
Geo. C. Clark,	25 00
	<hr/> \$2023 22

CASH PAID OUT.

Postage stamps,	\$59 75
Postal cards,	3 00
Printing Vol. XIII,	562 72
Brandon Publishing Company,	233 60
Halftone plates,	30 09
Stenographer,	18 75
Telephone,	2 25
Telegraph,	2 75
Home Dairy Test prizes, 1900,	50 00
Home Dairy Test expense, 1901,	24 81
Advertising Year Books,	7 50
Express,	5 33
Sundries,	3 05
Salary of Secretary,	500 00
Traveling expenses, Sec.,	241 52
Cash on hand,	278 07
	<hr/> \$2023 22

PROVIDENCE, R. I., Jan. 15, 1902.

We have this day examined the account of C. M. Winslow, our Secretary, and find it correct.

J. F. CONVERSE,	} Auditors.
S. M. WELLS,	
J. O. MAGIE,	

ELECTION OF OFFICERS

THE PRESIDENT—We will now proceed to the election of officers and the first in nomination is a President, and, before you make your nomination, I would like to say that I have occupied the position for five years and decline another nomination. Thanking you for all past courtesies I now ask for nomination for a President and would like to ask Mr. Brown to state his opinion of a change in the custom of expecting a President to hold his office for five consecutive terms.

MR. BROWN—I think it has been the custom from the beginning to re-elect a President from term to term until he had held the office for five years, but I see no reason why that usage should continue.

MR. CONVERSE—I move you that it is the sense of this meeting that the time of holding the office of President in the future be limited so as not to exceed two consecutive elections.

(Motion carried.)

MR. BROWN—I move that an informal ballot be taken and that the three names receiving the largest number of votes be considered the candidates placed in nomination.

(Motion carried.)

THE PRESIDENT—I will appoint Mr. Brown and Mr. Hayes to act as tellers.

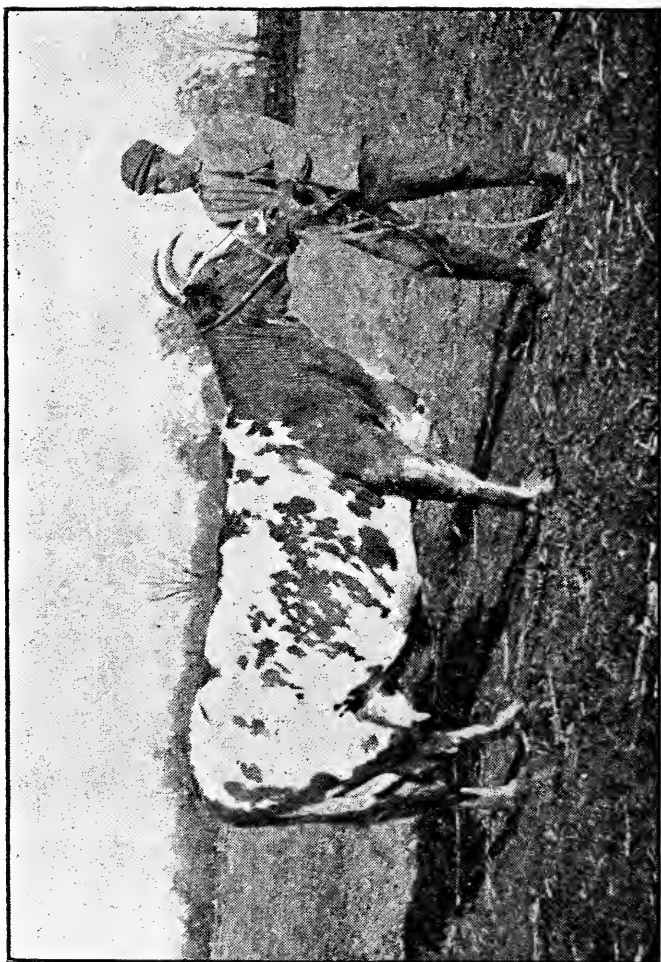
THE PRESIDENT—Will the tellers report the result of the informal ballot?

MR. BROWN—By your informal ballot you have placed in nomination Dr. Thomas Turnbull, Jr., George H. Yeaton and S. M. Wells.

DR. TURNBULL, JR.—It will be impossible for me to act as President if I should be elected and, thanking



GOLD COMMANDER, 7537,



MISS ROSALIND, 13065.

you for your courtesy, I must positively decline to allow my name to be placed in nomination.

THE PRESIDENT—You hear the remarks of the Doctor and I think he is a man who means what he says. Please prepare your ballots.

THE PRESIDENT—You have by report of the tellers elected Mr. George H. Yeaton as your next President, and will the tellers please escort Mr. Yeaton to the chair.

It was voted that the Secretary be instructed to cast one ballot for Hon. Obadiah Brown as Vice-President.

It was voted to instruct the Secretary to cast a ballot for James J. Hill for Vice-President.

It was voted to instruct the Secretary to cast a ballot for Dr. Thomas Turnbull, Jr., for Vice-President.

It was voted to instruct the Secretary to cast a ballot for Etna J. Fletcher for Vice-President.

It was voted that the President cast a ballot for C. M. Winslow for Secretary and Editor.

It was voted that the Secretary cast a ballot for N. S. Winsor for Treasurer.

Charles H. Hayes and E. B. Sherman were elected to serve as Executive Committee for three years.

A vote of thanks was tendered to the retiring officers.

THE SECRETARY—We have been in the habit of printing a volume of the Herd Book every two years, but the last volume contains 560 pages and is too thick for convenience in handling and I think our Herd Books would look better to be uniform in thickness and to not exceed about 400 pages.

On a motion it was voted that the Secretary give notice to the breeders of the closing of Volume 14 and

print the Volume when there are sufficient entries recorded to make about 400 pages.

It was voted that the Secretary and Treasurer be authorized to have as many of the old volumes now in folded form bound as they in their judgment think best.

Considerable discussion was had in regard to the place of holding the next annual meeting and it was finally left for the Executive Committee to decide and locate.

It was voted that the Association invite all members present at the next annual meeting to lunch together at one o'clock at the expense of the Association.

NEW MEMBERS

The following names were presented for membership and voted that they be received and enrolled when they pay the Life Membership fee of \$25.00.

Forest Park Farm, Brandon, Vt.,
 Dr. Adams, Supt.
 Edwin G. Palmer, Plainfield, Conn.
 Henry Dorrance & Son, Plainfield, Conn.
 John A. Baton, Warregean, Conn.
 Davis Copeland & Son, Campello, Mass.
 R. Parker & Son, Ferrisburg, Vt.
 Frank E. Russell, Greenfield, N. H.
 L. A. Reymann, Wheeling, West Virginia.
 David Whitney, Wilton, N. H.
 Herbert N. Sawyer, Atkinson, N. H.
 Jay L. Colburn, Milford, N. Y.
 J. V. Probasco, Cream Ridge, N. J.
 J. D. Honeyman, Portland, Ore.

EXPERT JUDGES

It is the opinion of the Ayrshire Breeders' Association that the men selected by the Agricultural Fair Associations throughout the country, to judge Ayrshire cattle in the ring, should be men acquainted with Ayrshire cattle, and men familiar with the scale of points and characteristics of the breed.

The Executive Committee have selected the following names of men in different parts of the country whom we believe to be experts in judging Ayrshire cattle, and would recommend to Fair Associations as Judges :

Alonzo Libby, Westbrook, Maine.
 Charles H. Hayes, Portsmouth, N. H.
 George H. Yeaton, Dover, N. H.
 W. R. Garvin, Dover, N. H.
 L. S. Drew, Burlington, Vt.
 F. W. Spalding, Poultney, Vt.
 H. R. C. Watson, Brandon, Vt.
 C. M. Winslow, Brandon, Vt.
 George A. Fletcher, Milton, Mass.
 Obadiah Brown, Providence, R. I.
 H. S. Joslin, Mohegan, R. I.
 Dudley Wells, Wethersfield, Conn.
 S. M. Wells, Wethersfield, Conn.
 J. H. Larned, Putnam, Conn.
 B. C. Sears, Blooming Grove, N. Y.
 A. S. Tubbs, Mexico, N. Y.
 Frank Converse, Woodville, N. Y.
 J. O. Magie, Elizabeth, N. J.
 William Lindsay, Elizabeth, N. J.
 B. Luther Shimer, Bethlehem, Pa.
 H. Hayward, State College, Pa.
 J. P. Beatty, Pataskala, Ohio.
 John Stewart, Elburn, Ill.
 C. S. Plumb, Lafayette, Ind.
 Etna J. Fletcher, Greenfield, N. H.,
 E. B. Sherman, Harrisville, R. I.

C. M. WINSLOW, Secretary.

OFFICERS OF THE ASSOCIATION

President

GEORGE H. YEATON, Dover, N. H.

Vice-Presidents

OBADIAH BROWN,	JAMES J. HILL,
Providence, R. I.	St. Paul, Minn.
THOMAS TURNBULL, JR.,	
Allegheney, Pa.	ETNA J. FLETCHER,
	Greenfield, N. H.

Secretary and Editor

CHARLES M. WINSLOW, Brandon, Vt.

Treasurer

NICHOLAS S. WINSOR, Greenville, R. I.

Executive Committee

J. F. CONVERSE,	JOHN W. SCOTT,
Woodville, N. Y.	Austin, Minn.
S. M. WELLS,	J. O. MAGIE,
Wethersfield, Conn.	Elizabeth, N. J.
C. H. HAYES,	E. B. SHERMAN,
Portsmouth, N. H.	Harrisville, R. I.

MEMBERS OF THE ASSOCIATION

California

Bement, George	East Oakland.
Coutts, Peter.....	Mayfield.
Higgins, Asa	Petaluma.

Connecticut

Baton, John A & Son.....	Plainfield.
Connecticut Insane Asylum.....	Middletown.
Dorrance, Henry.....	Warregan.
Dunham, J L.....	Sharon.
Ennis, Alfred A ...	Danielson.
Gold, T S.....	West Cornwall.
Greene, B D.....	Stamford.
Larned, J H.....	Putnam.
Palmer, Edwin G	Plainfield.
Roode, Joseph.....	Jewett City.
Sears, N E.....	Elmwood.
Weed, John W.....	Noroton.
Wells, Dudley.....	Wethersfield.
Wells, S M	Wethersfield.

Delaware

Sellers, William	Edgemoor.
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Kansas

Adams, A A	Berryton.
Delap, S N	Iola.
Stowits, H.....	Abilene.

Illinois

Blodgett, H W..	Waukegan.
Jones, D & G	Galesburgh.
Stewart, John	Elburn.

Indiana

Oliver, James	So. Bend.
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Iowa

Coldren, J N..... Iowa City.

Maine

Dearborne, A J..... West Falmouth.
 Hunt, A W..... Brunswick.
 Libby, Alonzo Westbrook.
 Milliken, Chas R.. ... Portland.
 Pember, Elmer F..... Bangor.

Maryland

Cochran, T Allman.. Baltimore.
 Harrison, Chas K Pikesville.

Massachusetts

Bacon, P K Campello.
 Birnie, Chas A Longmeadow.
 Blodgett, J W East Saugus.
 Boise, Enos W Blandford.
 Bowker, George H..... Barre Plains.
 Bradford, J H, Supt. Monson.
 Calumet Woolen Co..... Uxbridge.
 Choate, Charles F..... Southboro.
 Clark, Franklin P Sudbury.
 Copeland, Davis & Son..... Campello.
 Crissey, Warren..... Great Barrington.
 Curtis, L W..... Globe Village.
 Fletcher, George A..... Milton.
 Hamilton Woolen Co Southbridge.
 Harrington, H A..... Worcester.
 Heath, G P Northboro.
 Jones, N P..... Billerica.
 Knowlton, George W West Upton.
 Lawrence, James..... Groton.
 Leach, Philo..... Bridgewater.
 Massey, D A..... Asylum Station.
 Merriam, Herbert Weston.

Massachusetts (Continued)

Millard, L D.....	Taunton.
Peirce, F C	Concord Junction.
Perley, Charles.....	Bradford.
Pierce, George H.....	Concord.
Piper, Anson C	South Acton.
Reed, Hammon,.....	Lexington.
Sage, Chas D	North Brookfield.
Smith, Peter D..	Andover.
Stone, Geo F.....	Littleton.
Thorp, John C	Holyoke.
Tyler, Arthur F.....	Athol.
Walker, William I.....	Great Barrington.
Wolcott, C W.....	Readville.
Young, Gilman P.....	Grafton.

Minnesota

Hill, James J	St. Paul.
Reeve, C McC	Minneapolis.
Scott, John W.....	Austin.

Mississippi

Surget, James	Natchez.
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New Hampshire

Boynton, C H.....	Lisbon.
Cater, H F & Son	North Barrington.
Clark, George C.....	Orford.
Edes, Samuel	Newport.
Fletcher, Etna J.....	Greenfield.
Garvin, W R.....	Dover.
Hayes, Charles H	Portsmouth.
Hayes, Charles S.....	Portsmouth.
Healey, C N..	Exeter.
Holt, Andy	South Lyndeboro.
Holt, E A.....	Hudson.
Kimball, Herbert M.....	Concord.
Sawyer, E E.....	Atkinson.
Yeaton, George H.....	Dover.

New Jersey

Beach, Frederick H.....	Dover.
Burke, Joseph F	Morristown.
Casterline, J Andrew.....	Dover.
Crane, Fred.....	Roselle.
Crane, John.....	Union.
Farley, F C.....	Milburn.
Howatt, D E.....	New Brunswick.
Kissel, Gustave.....	Morristown.
Lindsay, William	Plainfield.
Magie, J O	Elizabeth.
Probasco, J V.....	Cream Ridge.
Sadler, Edward W.....	Mont Clair.
Whittingham, W R.....	Milburn.

New York

Babcock, F M.....	Gouverneur.
Barney, C S.....	Milford.
Barnes, N	Middle Hope.
Bell, George H..	Rome.
Brayton, C N	South Wales.
Brodie, Hugh,.....	Rural Hill.
Brush & Rowley,.....	Northport.
Burnett, John W	Salem.
Buttrick, C A.....	Liberty Falls.
Campbell, John S.....	New York Mills.
Cass, George L.....	McGraw.
Clark, C W . . .	Guymard.
Clark, N E	Potsdam.
Clarkson, T S Jr.....	Potsdam.
Colburn, J L.....	Milford
Converse, J F.....	Woodville.
Cookingham, H W.....	Cherry Creek.
Crozier, William.....	Northport.
Doane, Franklin.....	Middletown.
Dorn, Elmer J.....	Johnstown.

New York (Continued)

Emery, C G.....	Clayton.
Griffin, J H	Moir.
Hall, Lott.....	Gouverneur.
Ham, Eugene	Verbank.
Harrington, A D	Oxford.
Hawkes, E B.....	Wells Bridge.
Hubbard, George D.....	Camden.
Hyde, J B.....	120 Broadway, New York City.
Jackson, Ward R.....	Boonville.
Jay, William,.....	Katonah.
Jenkins, J W.....	Vernon.
Jones, Ira W.....	Alfred.
Kemp, Edward	New York City.
Krebs, J DeWitt.....	439 Manhattan Ave., New York City.
Magone, Daniel.	Ogdensburgh.
McCrea, Robert	Champlain.
Miller, James	Penn Yan.
Nichols, James H	Carmel.
Norton, W H	Allentown.
Oneida Community, Limited,...	Kenway.
Ormiston Bros....	Cuba.
Paget, A H	Lakeville.
Pike, George E.....	Gouverneur.
Ramsdell, H S	Newburgh.
Rhodes, T F.....	Camillus.
Schanck, W P.....	Avon.
Schouten, E A.....	Cortland.
Sears, B C.....	Blooming Grove.
Seaver, Henry E	Canton.
Smith, J B	Walden.
Smith, Oliver & Son.....	Chateaugay.
Stowell, L D.....	Black Creek.

New York (Continued)

Taber, George	East Aurora.
Taylor, John L	Owego.
Thurber, C S	New York City.
Topping, R R.....	Amsterdam.
Tubbs, Ambie S.....	Mexico.
Tucker, W G	Elm Valley.
Tuttle, M A.....	Hornellsville.
Underhill, C S.....	Glenham.
Verplank, Samuel.....	Fishkill-on-Hudson.
Viner, William.....	Arden.
Whitney, C P.....	Orleans.
Winter, N. H.....	Cortland.

Ohio

Beatty, J P	Pataskala.
Betts, Henry.....	Pittsfield.
Cook, Howard,	Beloit.
Crane, J H & Sons.....	Toledo.
Fuller, C C	Nelson.
Mason, F H	Leon.
Spencer, A B.....	Goldwood.
Wilson, A J	Grafton.

Oregon

Tongue, Thos H.....	Hillsborough.
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Pennsylvania

Ayer, H S.....	Columbus.
Boyer, R A	Catasauqua.
Butterfield, Jerome F.....	South Montrose.
Byrne, Christopher	Friendsville.
Carrons, Robert M.....	Washington.
Cloud, James & Son	Kennett Square.
Cornell, A M	Altus.
Cornell, F P.....	Sylvania.
Fairweather, William.....	Meadville.

Pennsylvania (Continued)

Farrell, W E.. .. .	Corry.
Hopkins, Willis W.....	Aldenville.
Logan, A Sidney.....	Philadelphia.
McFadden, George H.. .. .	Bryn Mawr.
Munce, R J	Washington.
Peck, C L.....	Coudersport.
Shimer, A S.....	Redington.
Shimer, B Luther	Bethlehem.
Turnbull, Thomas Jr.....	835 Western Ave., Allegheny.
Valentine, John R.....	Bryn Mawr.

Rhode Island

Angell, Edwin G.....	Providence.
Arnold, George W.....	Warren.
Bowen, Edward S	Providence.
Brown, Obadiah.....	Providence.
Carr, Lewis.....	Providence.
Davis, L D	Newport.
Haskins, J P & Son	Providence.
Hawes, Addison S... ..	Providence.
Hazard, Isaac	Providence.
Hopkins, William H.....	Providence.
Joslin, H S	Mohegan.
Robinson, Isaac R	Providence.
Russell, Henry G	Providence.
Sherman, Everett B	Harrisville.
Sherman, Leander....	Harrisville.
Smith, Daniel A.....	Tarkiln.
Vaughn, William P	Providence.
Winsor, Nicholas.....	Greenville.
Wood, Lucius H.....	Cranston.

South Carolina

Crayton, B F & Son	Anderson.
Hinson, W G	Charleston.

Texas

Pope, Rev. G Stanley	Grand View.
Turner, J C	Longview.

Virginia

Venable, A R Jr	Farmville.
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Vermont

Abell, C A	St. Albans.
Ball, A P	Derby Line.
Brainerd, L	St. Albans.
Doe, Chas C	South Newbury.
Drew, L S.....	South Burlington.
Emerson, Chas. W.....	Charlotte.
Fisher & May.....	St Albans Hill.
Nye, W C	East Barre.
Peck, Cassius	Burlington.
Proctor, Fletcher D.. ..	Proctor.
Sanford, Chas.....	Orwell.
Scott, W F.....	Brandon.
Scribner, G S	Castleton.
Smith, E A	Brandon.
Spalding, L C & Son.....	Poultney.
Stevens, Wm Stanford.....	St. Albans.
Watson, H R C	Brandon.
Winslow, C M.....	Brandon.

West Virginia

Reymann, L A.....	Wheeling.
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Wisconsin

Hazen, Chester.....	Brandon.
Johnson, Joseph	Hartland.
Jones, Sam.....	Juneau.
Tschudy, Fred.....	Monroe.

Residence Unknown

Rhome, B C.....	
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Canada

Allan, Andrew.....	Montreal, Que.
Cochran, M H.....	Compton, Que.
Davidson, George	Fairfax, Que.
Drummond, James.....	Petite Cote, Que.
Gibb, John L.....	Quebec, Que.
Irving, Thomas	Petite Cote, Que.

Scotland

Stewart, John Lorne	Island of Coll.
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CHARTER

An Act to Incorporate the Ayrshire Breeders' Association.

It is hereby enacted by the General Assembly of the State of Vermont :

SEC. 1. J. D. W. French, James F. Converse, Alonzo Libby, F. H. Mason, Obadiah Brown, Henry E. Smith, C. M. Winslow, S. M. Wells, H. R. C. Watson, James Scott, George A. Fletcher, Charles H. Hayes, John Stewart, their associates and successors, are constituted a body corporate by the name of the "Ayrshire Breeders' Association," and by that name may sue and be sued ; may acquire by gift or purchase, hold and convey real and personal estate, necessary for the purposes of this corporation, not to exceed twenty-five thousand dollars ; may have a common seal and alter the same at pleasure.

SEC. 2. The object of this corporation shall be to publish a herd book, and for such other purposes as may be conducive to the interest of breeders of Ayrshire cattle.

SEC. 3. This corporation may elect officers and make such by-laws, rules and regulations for the management of its business as may be necessary, not inconsistent with the laws of this State.

SEC. 4. This corporation may hold its meetings at such time and place as the corporation may appoint.

SEC. 5. This act shall take effect from its passage.

JOSIAH GROUT,

Speaker of the House of Representatives.

LEVI K. FULLER,

President of the Senate.

Approved November 23, 1886.

EBENEZER J. ORMSBEE,

Governor.

(A true copy.)

Attest : E. W. J. HAWKINS,

Engrossing Clerk.

CONSTITUTION

Preamble

We, the undersigned, breeders of Ayrshire cattle, recognizing the importance of a trustworthy Herd Book that shall be accepted as a final authority in all questions of Pedigree, and desiring to secure the co-operation of all who feel an interest in preserving the purity of this stock, do hereby agree to form an Association for the publication of a Herd Book, and for such other purposes as may be conducive to the interests of Breeders, and adopt the following Constitution :

ARTICLE I.

This Association shall be called The Association of Ayrshire Breeders.

ARTICLE II.

The members of the Association shall comprise only the original signers of this Constitution, and such other persons as may be admitted, as hereafter provided.

ARTICLE III.

The officers of the Association shall consist of a President, four Vice-Presidents, a Treasurer, a Secretary, who, together with six members of the Association, all chosen by ballot, shall constitute an Executive Committee.

The President, Vice-Presidents, Treasurer and Secretary shall be elected annually.

The six members who make up the balance of the Executive Committee shall be elected as follows : Two members for one year, two members for two years, and two members for three years, and hereafter two members shall be elected each year for a term of three years.

The Treasurer shall present at the annual meeting of the Association a full statement of his accounts, audited by two members of the Association, appointed by the Executive Committee.

The Executive Committee shall, under the general direction of the Association, prescribe the manner in which the business of the Association shall be conducted; shall have general control, of all matters pertaining to its interests; shall have authority to appoint an editor of the Herd Book, and may fill any vacancies occurring among the officers. The office of Secretary, Treasurer and Editor may be filled by the same person.

The Treasurer, Secretary and Editor shall receive compensation for their services, to be fixed by the Association. The Treasurer shall give such bonds as may be required by the Executive Committee.

ARTICLE IV.

The annual meeting of the Association shall be held each year, at such time and place as shall be designated by the Executive Committee (of which notice shall be sent to members at least one month previous), for the discussion of questions of interest to the members, and for the election of officers for the ensuing year. Special meetings of the Association may be called by the President or by the Executive Committee or at the written request of ten members. Twenty days' notice must be given and the object of the meeting announced in the call, and no business other than that specified in the call shall be transacted at the special meeting. Time and place shall be determined in same way as annual meeting.

At all meetings of the Association members may vote in person, or by proxy, or they may send their ballots by mail to the Secretary, whose duty it shall be



TERRY DRUMMOND, 5580.



GIPSEY OF BROOKSIDE. 11265.

to vote the same and to acknowledge their receipt. At least twenty members present, represented by proxy, or written ballot, shall be a quorum for transacting business.

ARTICLE V.

Only breeders of Ayrshire cattle shall be eligible for membership, and members shall be elected at any regular meeting of the Association; also by the unanimous written consent of the Executive Committee at any time between the annual meetings, subject to the following conditions:

Each applicant for membership shall be recommended by one or more members of the Association, as a trustworthy and careful breeder; and no new member shall be admitted if objected to by any officer of the Association.

The Secretary shall notify the candidate of his rejection, or in case of his election that he will be admitted as a member on signing the Constitution and paying the initiation fee.

An applicant who has been rejected shall not be voted on again until two years from the date of his rejection, unless by the unanimous consent of the officers of the Association.

ARTICLE VI.

Each member shall pay an initiation fee of twenty-five dollars. These fees shall constitute an Association Fund to defray the expenses of publishing the Herd Book, and other charges incidental to the organization of the Association and to the transaction of its business.

No officer or member shall be authorized to contract any debt in the name of the Association.

ARTICLE VII.

The Herd Book shall be edited by an Editor appointed for that purpose, under the control and

supervision of the Executive Committee, and shall be published only with its official approval.

The charge for entry of the Pedigree of each animal belonging to a member of the Association shall be fixed by the Executive Committee, but shall not exceed one dollar, except for an animal two years old.

Animals not belonging to members of the Association may be entered in the Herd Book upon the payment of twice the amount charged to members.

The Herd Book charges shall be appropriated to the examination and verification of Pedigrees, and the preparation of the Herd Book which shall be published by the Association and shall be its property. The price of the Herd Book shall be determined by the Executive Committee. The Editor shall keep on file all documents constituting his authority for Pedigrees, and shall hold them subject to the inspection of any member of the Association, and shall deliver them to his successor in office.

ARTICLE VIII.

Should it occur at any time that any member of the Association shall be charged with wilful misrepresentation in regard to any animal, or with any other act derogatory to the standing of the Association, the Executive Committee shall examine into the matter; and if it shall find there is foundation for such a charge, the offending member may be expelled by a vote of two-thirds of the members of the Association, present or represented, at any regular meeting.

ARTICLE IX.

This Constitution may be altered or amended by a vote of two-thirds of the members present or represented by proxy, at any annual meeting of the Association.

Notice of proposed alterations or amendments shall be given in the call for said meeting.

REGULATIONS

1. Only such animals shall be admitted to the Herd Book as are proved to be either imported from Scotland or descended from such imported animals.

2. All animals hereafter imported, to be eligible to registry in the Ayrshire Record, must previously be recorded in the Ayrshire Herd Book of Scotland, and an application for registry must be accompanied by a certificate of registry duly signed by the Secretary in Scotland.

Entries of calves imported in dam must be accompanied by the certificate of registry of sire and dam in the Scotch Herd Book, also certificate of bull service, signed by owner of bull.

3. No animal not already named and entered in some Herd Book at this date, shall be accepted for entry under a name that has already been offered for entry ; also, the affix, 1st, 2d and 3d, shall apply only to calves of the cow bearing the name used ; not to her grandchildren, nor any other animal.

4. The breeder of an animal shall be considered the one owning the dam at the time of her service by the bull.

5. No Pedigree will be received for entry from anyone except the breeder of the animal offered, unless it is accompanied by a certificate of the breeder or his legal representative, indorsing the Pedigree.

Entries of calves, sired by bulls not owned by the breeder of the calf, shall be accompanied by a certificate of bull service signed by owner of bull.

6. All animals sold, in order that their progeny may be registered, must have their successive transfers duly recorded. Records of transfers will be made only on the certificate of former owner, or his legal representative.

7. A transfer-book shall be kept by the Editor, in which all changes of ownership shall be recorded.

8. The Editor shall keep a record of the deaths of all animals which may be sent to him. (And breeders are requested to forward the same, stating cause, etc.)

9. The fees for recording are one dollar for each animal recorded by and in the name of a member of the Association, being either bred or owned by him, and two dollars for animals over two years old at the time of entry.

Double the above rates are charged to those not members.

A fee of twenty-five cents will be charged for recording ancestors necessary to complete a Pedigree to importation or to cattle already in the Ayrshire Record.

Transfer fee twenty-five cents. All the above fees should accompany the entry or transfer papers to insure attention.

10. An individual membership shall be continued after the death of a member in the settlement of his estate until the same shall be settled and then the membership shall cease. The inheritor of a herd of Ayrshires shall also inherit the membership of the Ayrshire Breeders' Association—subject to approval of said Association. In case of corporations, the corporation may continue as a member so long as they are interested in the Association, and shall be represented by such person as may be designated by the President and Secretary of the corporation.

The surviving member of a firm may be the member of the Association.

A firm shall have but one address.

11. These Regulations may be altered, amended or added to, with the consent of two-thirds of the officers of the Association and Executive Committee.

RULES FOR ADVANCED REGISTRY

PREAMBLE.

For the purpose of encouraging a better system of keeping milk and butter records, and that we may obtain more and reliable records of the dairy yield of Ayrshire cows, we hereby adopt the following rules and regulations for the establishment of a system of Advanced Registry for Ayrshire cattle.

RULE I.

The Secretary of the Association shall have charge of this Registry under the general supervision and direction of the Executive Committee, he shall prepare and publish blank forms and circulars needed in carrying this system into effect, receive and attend to all applications for this registry, and have general oversight and direction of all official tests of milk and butter production for it and perform such other duties as may be required to secure the efficiency and success of this system. He shall make a full report of his work in this branch at the Annual Meeting each year, and publish the entries when so ordered by the Executive Committee.

RULE II.

Classification of Tests.

Cows may be entered for record from a seven day test of milk and butter, also from a year's test for milk and butter, and the seven day test may be included in the year's test.

RULE III.

Classification of Animals.

Cows from two to three years old shall be in a class known as the two-year-old form.

Cows from three to four years old shall be in a class known as the three-year-old form.

Cows from four to five years old shall be in a class known as the four-year-old form.

Cows above five years old shall be in a class known as the full age form.

RULE IV.

Eligibility of Bulls.

No bull shall be eligible to Advanced Registry unless he shall have been previously recorded in the Ayrshire Record.

a—A bull to be eligible to Advanced Registry, shall be a typical Ayrshire bull in general appearance, shall scale 80 points, and have two daughters in the register.

b—A bull may be admitted to Advanced Registry without physical qualification, and without scaling provided he have four daughters in the Advanced Registry.

RULE V.

Eligibility of Cows.

No cow shall be admitted to Advanced Registry unless she shall have been previously recorded in the Ayrshire Record.

Two-year-old Form.

a.—Seven day record. If her record begins the day she is two years old or before that time she shall, to entitle her to record, give not less than 200 pounds of milk and eight pounds of butter in seven consecutive days, and for each day she is over two years old, at time of beginning the test, there shall be added: .014 pounds to the 200 pounds of milk and .0055 pounds to the eight pounds of butter.

b.—Year's record. If her record begins the day she is two years old or before that time she shall, to entitle her to record, give not less than 5500 pounds of milk in 365 consecutive days from the beginning of the test and 225 pounds of butter, and for each day she is over two years old at time of beginning the test there shall be added 2.75 pounds of milk to the 5500 pounds and .014 pounds of butter to the 225 pounds.

Three-year-old Form.

For the Three-year-old form the requirement shall be :

a.—Seven day record. 250 pounds of milk and 10 pounds of butter, with the same addition made to these amounts for each day she is over three years old when the test begins that is made to the Two-year-old Form, which addition shall be made for each form to maturity.

b.—Year's record. 6500 pounds of milk and 275 pounds of butter for the 365 consecutive days from the beginning of the test, with the same additions for milk and butter as are required in the Two-year-old Form for each day she is over three years old at time of beginning test, which addition shall be made in each succeeding form to maturity.

Four-year-old Form.

For the Four-year-old Form the requirement shall be :

a.—Seven day record. 300 pounds of milk and 12 pounds of butter.

b.—Year's record. 7500 pounds of milk and 325 pounds of butter.

Mature Form.

For the Mature cow the requirement shall be :

a.—Seven day record. 350 pounds of milk and 14 pounds of butter.

b.—Year's record. 8500 pounds of milk and 375 pounds of butter.

RULE VI.

Period of Making Tests.

All tests for a year shall be commenced as soon after calving as practicable and shall not extend beyond 365 days from the commencement of the test, and in no case shall the test include the milk or butter from a second calving.

The seven day test may be made at any time, and should be made when the cow is at her best stage of the milking period.

If a cow is being tested for a year, the result may also include a seven day's test made within that time.

RULE VII.

Application for Tests.

Application for intended tests should be made to the Secretary as long before the desired time for beginning such test as possible in order to allow sufficient time to arrange with the Experiment Station of the State where the owner is located, for their supervision of the test.

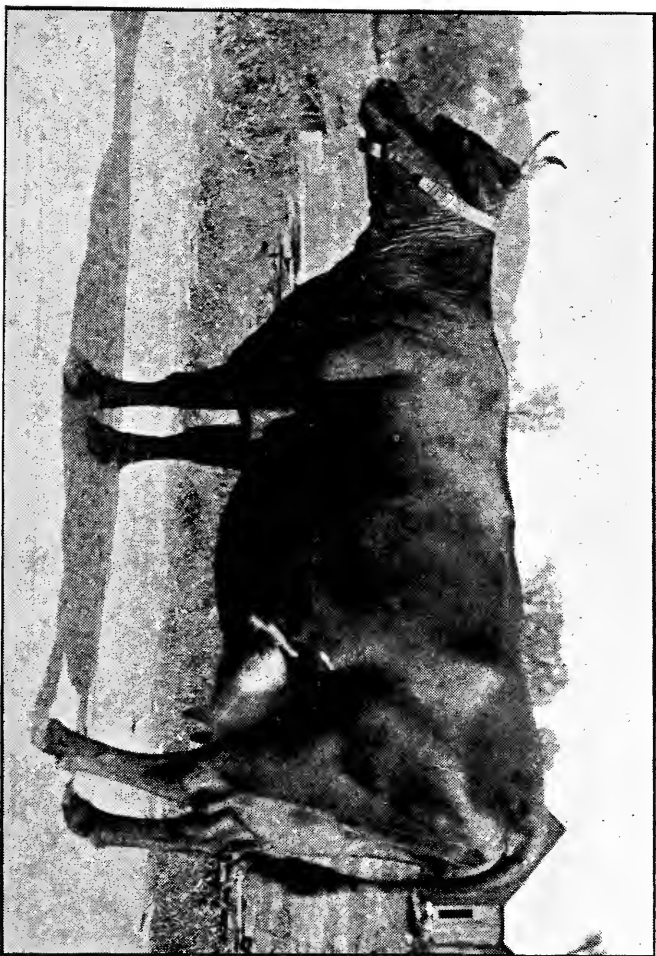
In making application for a test the owner should give sufficient evidence of the capability of the cow to qualify, to warrant making the test.

RULE VIII.

Method of Conducting.

All tests shall be under the supervision of the Secretary and the Experiment Station of the state where the test is being made, or such persons as may be appointed by concurrence of Secretary and Station.

For the seven day test the Agent shall see the cow milked clean twelve hours before the test begins and



SIMPLICITY, 12560.



LOOK ME OVER. 6027.

shall be present at each subsequent milking, shall weigh each milking and take a sample for a Babcock test, and shall take the entire charge of such sample until tested, and shall report the result of such test to the Secretary on blanks furnished for that purpose.

For the year's test the owner shall weigh each milking and keep a careful record of the same on blank forms furnished by the Secretary, and about the middle of each month he shall take a two consecutive day's sample, according to directions and send to his Experiment Station, and in addition to this the Experiment Station will send an agent to the stable at such times as the Director of the Station and the Secretary of the Association mutually desire, and not less than three times during the year, and said agent shall take a copy of the owner's milk record of the cow or cows being tested for the two days immediately preceding his visit and shall weigh the milk for the two days of his visit and take samples of each milking for a Babcock test, which tests, taken in connection with the tests from the monthly samples made by the owner, shall be the basis of computing the year's record of the cow.

RULE IX.

Expense of Making Tests.

All the expense of the seven day test shall be borne by the owner of the cow being tested.

In the year's test the expense of sending the samples taken monthly by owner of cow shall be borne by the owner of the cow, but the expense of Station work in testing samples and in sending an agent to verify tests shall be borne by the Association.

RULE X.

No Fee Required for Entries.

In view of the public benefits accruing from investigations under this system of registry and of the personal benefits to owners and breeders of Ayrshire cattle from demonstrations of their superiority by properly authenticated milk and butter records, made, gathered and preserved through this system, no fees will be charged for any form of entry in its Register.

RULE XI.

Amendments.

These rules may be altered, amended or added to by a two-thirds vote of the members present at any regular meeting of this Association, notice of proposed amendment having been given in the call for said meeting.

GENERAL INFORMATION**Price of Herd Books, etc.**

Each volume, I to XIII inclusive, may be obtained of the Treasurer, N. S. Winsor, Greenville, R. I., postage paid, \$2.25.

Milk Record blanks to accommodate herds of from 12 to 36 cows may be had of the Secretary, C. M. Winslow, Brandon, Vt., \$1.50 per 100.

Blanks for extending Pedigrees to five generations may be had of the Secretary at \$1.00 per 100.

All blanks necessary for recording and transferring Ayrshires may be had of the Secretary free of charge.

In giving sire and dam be careful to always give the Herd Book number of sire and dam.

When purchasing an animal be sure to get a transfer or see that the seller sends one to the Secretary for record.

When buying a female in calf be sure to get a certificate of bull service from the owner of the cow and attach it to the entry of the calf when sending in for record.

Be careful to send pay with each entry and transfer.

In filling out an entry of an animal that is sold there is no need of a separate transfer, but enter it in the line for owner with date of sale.

When the transfer is entered on the original entry for record there is no extra charge for the transfer above the entry fee.

When buying Ayrshires in Canada our government admits free of duty if they are registered in our Book before being entered at the Custom House, and it is much safer not to move them from the owner until they are recorded, because sometimes it happens that the pedigrees must be looked up at the Canada office and there is often considerable delay. Then, too, there are some animals recorded in the Canadian Books that are not eligible to record in ours, and if they are recorded in our Book before closing the trade it saves loss to buyer.

Sometimes buyers go into Canada and are persuaded to buy and pay the duty to save time, but this is risky as afterwards it is sometimes found that such animals cannot be recorded in our Book.

The Canadians sometimes try to convince the buyer that it is just as well to simply continue the Canada Register and record there instead of in our Book, which is not true, as a record in the Canada Book is only valuable in Canada, for all Ayrshires to be salable this side the line must be recorded in our Book or be eligible to such record.

It would be wise for anyone having an Ayrshire cow of extraordinary dairy ability to have her tested for Advanced Registry.

AN EARNEST PLEA FOR THE AYRSHIRES

(From the Breeders' Journal.)

After all said and done, where are there any more profitable dairy cattle to keep than the old Ayrshires? They are the most hardy and healthy of all cattle, live long in usefulness, make the best of high or low keeping, give a good quantity of milk of marketable quality, are gentle to handle and stand changes of weather with the best. While their milk is less rich than the Jersey's it keeps and transports far better and fully equal to the Holstein's. They give better milk than the latter and more quarts to the ton of hay. You may not appreciate this last point if you have unlimited pasture, but when you strike winter quarters you do not have to keep tally to find that a Holstein cow is an awful feeder, and though she out-milks "all-creation" she out-eats creation with a mortgage on top of it. An Ayrshire will give more quarts of as good milk for any purpose from a ton of hay and maintain her condition.

An Ayrshire will beat a Jersey in everything except cream, and her milk will keep better and not separate so easily when transported by rail. She is less dainty and cleans up rough fodder better than a Jersey, but no better than a Holstein. On pasture the question of profit is the same, though not as apparent. When drouth comes, the first to fall off in milk is the Holstein, because she must have abundance, next the Jersey, because she is dainty and refuses tough grass of older growth and new fails to come, but the Ayrshire holds out much longer because she is an active forager, and what is to be had she will find and appropriate. Holsteins make a splendid showing on rich, heavy limestone pasture where they can fill their enormous carcasses without stint, but like the Short-Horn they quickly deteriorate when moved to a less luxuriant

feeding ground, where Ayrshires would continue to thrive. The Hollanders discriminate in selecting stock as to the nature of the soil cattle are raised on, and some Herd Books note the facts in registering. Thus heavy breeds are known to be at a disadvantage in many regions where Ayrshires would thrive.

It is true that consumers like Jersey milk best when they can get it quite fresh, but it is a mistaken taste. Probably Jerseys are likely to hold the call over the immediate retail market, but where milk has to be shipped any distance on cars before being retailed, all know that Ayrshire and Holstein milk is best. The greater number of producers have to ship by rail and do not want Jerseys. As between Ayrshires and Holsteins, there are several advantages in favor of the Ayrshire. Ayrshire milk is not liable to drop below the inspection standard if the cattle are even half decently kept, while Holstein milk on flush pastures is so liable to this mishap that almost every shipper gets caught occasionally unless he feeds much extra grain as a safeguard, or keeps a few Jerseys to cream up with.

I know that very little is said about the merits of the Ayrshire in the papers. It has never been worth anybody's while to engineer a boom for her. She cannot appal you with a great list of milk and butter records made under unusual conditions that are apart from the natural qualities of the breed. She has not been worked with that object in view. She could do it if required, but perhaps only to mislead practical men, as has been done with Jerseys and Holsteins. Not but what those cows have done the great things ascribed to them in special instances. That is all right for the instances. I speak of breeds as practical men will find

them, and do find them; when they invest their money and go to work.

What does it matter to a farmer if Holstein Maid under manipulation makes a record of a tub of butter a day? He cannot buy her and it does not alter the fact that such Holsteins as he can buy are very poor butter cows, and average Jerseys are very small milkers, though we grant that Matilda Jane, a rare exception, gave over 16,000 pounds of milk in a year. Practical men should not confound exceptions with rules. There is no glamour about the Ayrshire. Her reputation has come of the merits of the breed, and not of its exceptions. They will not give you as rich milk as the Jerseys, but it will be good milk and more of it, and in bulk it sells for as much per quart. They will not give as much as Holsteins, but it will be liked better by consumers, and cost less per quart to make, where food-cost is worth considering. The Ayrshire first and the Dutch-Belted next for a "Producer and Shipper," who writes in the Country Gentleman.

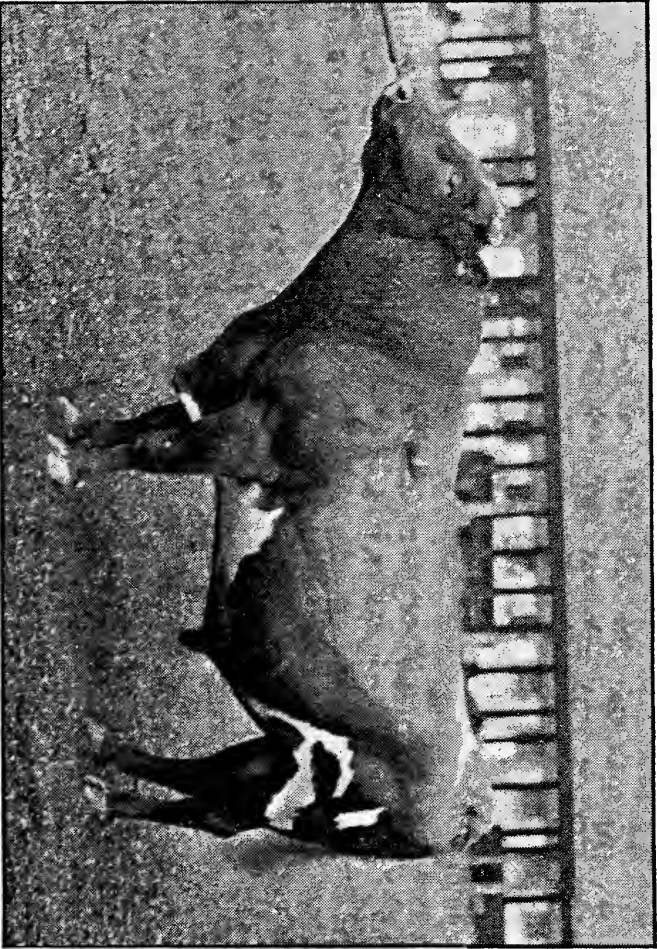
AYRSHIRE COWS AS MILK PRODUCERS

(Paper read by Robert Wallace before the recent meeting of the British Dairy Farmers' Association.)

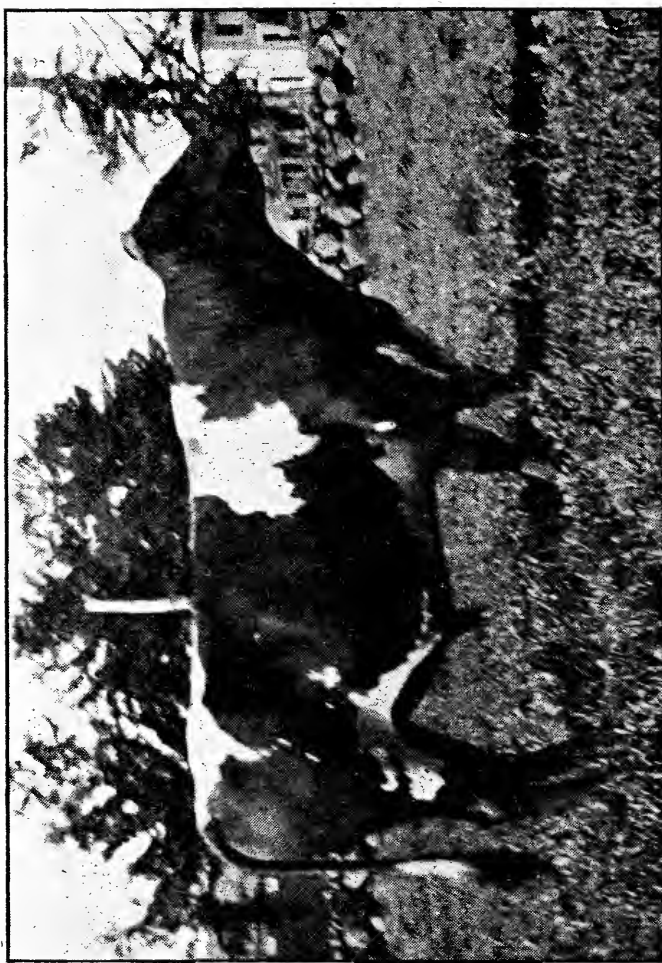
The origin of the Ayrshire breed of cattle, whose fame has now reached all parts of the habitable world, is not very clearly recorded in the chronicles of the bovine race. Their recognition as a breed does not extend back much more than one hundred years. This justly celebrated breed of cattle have neither been imported from abroad nor raised to their present excellence altogether from the magical effects of gigantic bulls brought into the district, for though some alteration may have been effected in the size, shape and color by the introduction of a few cows and

bulls of an improved breed, yet the dairy breed of Ayrshires are in a great measure the native indigenous breed of the county of Ayr, improved in their shapes and qualities chiefly by judicious selection, coupled with better feeding and treatment for a long series of time by the industrious inhabitants of the county. To increase the quantity of milk the farmers bettered the condition of their stock, and selected for breeding such as they found to be the most productive. By these means their stock gradually improved. The farmers acquired in course of time more correct notions of making still greater improvements. It was chiefly by these means, and not by changing the original breed, that they have attained their present high position in the dairy world. The Ayrshire breed of cattle, as it now exists, is, in my opinion, as pure as the 'Booth' or Bates Shorthorns were when these celebrated breeders left the scene. Since I remember, Ayrshires have been gradually spreading over the south-west of Scotland, and at one time looked as if they were to displace the native breed or breeds altogether. What I consider the points of a good or model Ayrshire cow are: Head medium size, forehead wide, nose fine between muzzle and eyes, muzzle wide, eyes full and lively with a docile expression when not disturbed, neck long and straight from shoulder to head, gracefully tapering from brisket upwards, free from loose skin underneath, and fine at its junction with the head; shoulders thin at top, brisket light, the whole forequarters thin in front and gradually increasing in depth and width backwards, back short and straight, spine well defined especially at the shoulder, ribs well arched and deep at the flank, hindquarters long, broad and straight; hook bones wide, thighs deep and broad, tail long and slender and set on at a level with the back, legs short, the bones

fine, with nice broad firm joints; milk vessel or bag large, extending well forward; hind part thick and firmly attached to the body, the sole or under surface nearly level, with teats from 2 to 2 1-2 inches in length, about equal in thickness, round at the very point like your finger, rather than bottle soled, soft and elastic to the touch like a kid glove, well set and hanging perpendicular, their distance apart at the sides should be equal to about one-third of the length, and across to about one-half of the breadth; the milk veins large and well developed, skin soft and elastic. In color I prefer a distinct brown and white. An Ayrshire cow should move gracefully and carry her head nice and high. These combined points give a wedge-like shaped appearance to the animal which for beauty and symmetry are not equalled by any other breed of cattle. In attempting to ascertain the merits of the different breeds of dairy cattle it is essential in fair competition to ignore the wonderful yields of individual cows as reported by the various experimenters. There are in almost all these cases exceptional circumstances calculated to impose upon the unwary, such as milking them three times a day and feeding them on their own milk and other costly foods. Such trials, in my opinion, furnish no criterion of the real merits of the breeds for milk producing. I have heard of from 60 to 80 lbs. of milk per day, and from 14 to 18 lbs. of butter per week from individual cows of this breed. I don't know what treatment they received, but I assume it would be very liberal. At the milking competition held in connection with the Ayrshire Agricultural Association exhibition in 1860, commonly known as the Duke of Athole's milking competition, in which all the competing animals were of the Ayrshire breed, the following is the average of ten successive milkings, twelve hours



MAJOR DRUMMOND, 2006.



DERRY, 5635.

between each milking, viz: 26 lbs. 5 1-2 oz., 24 lbs. 7 oz., 22 lbs. 10 oz., and 22 lbs. 1 oz. At a more recent competition, held under the auspices of the same society in the year 1886, prizes were offered for the Ayrshire cow that would give the greatest quantity of milk in twenty-four hours. This trial was not altogether satisfactory; several of the cows did not take very kindly to the wooden erection put up for them, and a dog show was held within twenty yards from where the cattle were stalled, which prevented some of them from feeding. The weight of the four at the top was 57 1-4 lbs., 56 1-4 lbs., 55 1-2 lbs., and 51 1-2 lbs. These are the only two milking trials, so far as I know, held by this society, which, if worth anything at all, goes to show that the Ayrshire cows of 1886 were somewhat superior to those of 1860. At the Oxfordshire Agricultural Society's open show at Henley-on-Thames on the 19th and 20th of May, 1886, for the greatest quantity of milk at two successive milkings, and not more than twelve hours apart, the first prize was awarded to Mr. George Ferne's Ayrshire cow Lady Elphinstone, with a yield of nearly 7 gallons, or 68 lbs., in competition with all other breeds and cross breeds. I consider this a very great feat when it is taken into account that she was fully four months calved. At the Bath and West of England Show at Bristol, in June, 1886, this same cow also beat all comers for quantity and quality combined. It may not be out of place to give the yield of my own forty cows at the time when I write (25th May). They are giving four gallons each per day, which is a very fair yield when we take their ages into account and the high locality in which my farm is situated. Two of the cows are two-year-olds, sixteen are 3 year, nine are 4 and the rest 5 and upwards. The pasture is very good—better indeed

than I have ever seen it in May. Mr. Robert McAdam, who had several years' experience in dairying in Cheshire, says that he found very little disparity in the amount of milk yielded by Ayrshires and Shorthorns, and he also adds that the same may be said in regard to the ratio of yield, in cheese or butter, from the milk ; but as the Shorthorn is much the larger cow, it naturally follows that more Ayrshires can be kept on the same land. This, I believe, would be verified under the most careful trials. The average yield of cheese during his 27 years' experience of dairying in the south-west of Scotland, except one year, was over 520 lbs. per cow per annum for Ayrshire cows. Within recent years the demand for really good Ayrshire cattle, even for export, has reached a very high figure, and realized prices which a few years ago were never dreamt of. A really good bull or cow, of a prize strain, will now sometimes give £100 and upwards. I say that in modern times, in the eagerness to secure fancy bodies and prize vessels, there has been a tendency to neglect or ignore the milking properties. I also look upon the small teats as a delusion ; and this point has operated more than any other to prevent the universal adoption of the Ayrshires as the dairy cow. In some showyards, of late, the very small teats have been discarded, and not a day too soon. I think the time has now come when the several agricultural societies ought to take up this matter, and have a firm rule laid down that no cow get a prize whose teats don't come up to a standard size laid down by them. The small teats would disappear faster than they were introduced, and the Ayrshire cow would then, I make bold to say, be the dairy cow of the world.

THE AYRSHIRE AS A BUTTER COW

(JOHN SPEIR in London Live Stock Journal.)

Although the Ayrshire has never ranked very high as a butter-producing cow, she always has been considered, and in all probability is, the second best butter-producing cow in the world. In a mild climate she certainly does not favorably compare with the Jersey in that respect, which from a certain quantity of milk would probably yield three pounds of butter for every two produced by the Ayrshire. Reverse, however, the climatic conditions, bring the Jersey from its island home to the bare and exposed hillsides of Ayr, Lanark and Argyle, and it is more than probable that Ayrshire cows of equal weight with the Jersey will yield three pounds of butter for every two pounds produced by the latter, thereby exactly reversing the positions in which they are usually placed. Compared with the Shorthorn it is also able to keep more than its own, in regard to both quantity and quality of produce. During the height of the season, when pasture is plentiful and succulent, it may take 27 lbs. of milk to make 1 lb. of butter, and in exceptional cases over that, but on the average about 25 lbs. to 26 lbs. is what is reckoned on. After the cows have been several months calved, and the pastures become firmer, the milk also becomes much richer. Compared at this season with the produce of Shorthorn or Dutch cows, it appears to considerable advantage, and when it is taken into account the manner in which it keeps its milk well on to the end, it appears much more so. Cows for butter appear always to do best where they get a sufficiency of food suitable to their requirements, without the necessity of having to exert themselves much to obtain it. With cows whose milk is to be made into cheese, the case appears, however, to be quite different, as the

latter seem to give the best results when they have a sufficiency of food with a good fair amount of exercise ; such as most Ayrshire stocks get. The belief is gaining ground that the proportion of casein in the milk is in some way connected with the albuminoid waste of the body, and that it is not derived direct from the food. The theory advanced is that the nitrogenous part of the food taken up by the blood is, in great part, employed to repair the waste of the body, the waste albuminoid matter being to a greater or less extent thrown off in the milk, instead of by the kidneys or skin, as in the usual course. As yet, however, the matter is only very indifferently understood, even by experts. Be the fact, however, as it may, cheese-makers find that they cannot to any appreciable extent increase their dairy produce of curd by any reasonable amount of nitrogenous food ; while butter-makers can always see the effect of their food in their cow's produce ; and where the former rarely use artificial food when their cows are on the grass, the latter very often do, more particularly from midsummer onward. As a commercial product of the farm, butter is rarely made in quantity in Scotland, other than in the immediate vicinity of the collieries or watering places, or between a five and a ten-mile radius from Glasgow. Under most of these conditions the buttermilk can always be easily sold at very remunerative rates. Where the butter milk cannot be sold, butter-making is considered not to pay, and cheese making then takes its place. In the southwestern counties there is no such thing as salting up butter on an extensive scale for sale, all the butter produced being either perfectly fresh or in a slightly powdered condition. The bulk of it is also in many cases retailed from the farmer's cart, what he cannot thus dispose of being put into grocers' shops at

one penny per pound or so less, there to be disposed of. With the exception of one creamery at Dunragit, in Wigtonshire, and others recently started at Dundee and Mauchline, all Scotch dairy produce has been manufactured at home. About 20 to 22 cows is the number usually kept, and as little ploughing is done, and almost no green cropping in very many localities, few men servants are required, as with few exceptions the milking and attendance on the cows is all done by women. These may belong to the farmer's household or be hired, as the case may be, so that little labor is employed, and the people find steady work all the year through. Churning the whole milk prevails to a greater extent in Scotland than in any other country we are aware of, which we suppose to be accounted for by the ready sale of the buttermilk; and unless in the creameries already mentioned mechanical separators are not used in a single instance, their want not being felt.

AYRSHIRE CATTLE

by C. M. WINSLOW.

As I am frequently inquired of in regard to Ayrshire cattle in the following lines, I will try to answer all these questions in this article.

What is their history, what kind of cattle are they for size, for hardiness, for easy keeping, for milk and butter, for beef, and do they cross well with other breeds.

HISTORY.

The Ayrshire cow originated in Scotland, in the County of Ayr, on the western slope towards the Atlantic ocean.

The country is naturally productive, and admirably suited to grazing, and on account of the mountains on the east and ocean on the west the country has a frequent rainfall which keeps the grass luxuriant and fresh.

There are, however, occasional coast storms that are very severe and, while the cattle are abundantly supplied with food, they must be prepared for great severity of climate and occasionally endure severe hardship.

The earliest history points to the wild white cattle as being common all over Scotland, and the first accounts of attempts to improve the native cattle indicate that the old Durham was largely used to breed up these white cattle of the earliest times.

The first we hear of the Ayrshire cattle as a distinct breed was about one hundred and fifty years ago, and from that time to the present they have been kept as a pure bred cattle.

The type in Scotland has changed essentially within the last forty years, judging from old photographs taken in 1860 of a milking contest for prizes offered by the Duke of Athole.

The five cows in this contest look like large substantial cows, more for business than for show, with large udders and long teats, more like the Ayrshire cows of the present New England type than those recently imported from Scotland.

In this contest the prize was for the cow that would give the largest average for ten successive milkings, and the first prize was for 26 pounds 5 1-2 ounces, the second 24 pounds 9 ounces, the third 22 pounds 10 ounces, the fourth 22 pounds 1 ounce, and the fifth 22 pounds.

In color these five cows do not vary much from the Ayrshires seen in New England today, being from solid red to about one-third white. The Ayrshires in Scotland today, judging from the cattle that have been imported within two or three years, are mostly white with larger horns and shorter teats.

The aim in Scotland of late seeming to be to produce a white cow with an udder on a level with the belly, and short teats well spread. Ayrshire cattle were early in the past century brought over to Canada by the early Scotch settlers and on ships from Glasgow to supply the passengers with milk during the voyage and sold to the farmers on arrival at port, either at Quebec or Montreal.

They were about the same time brought to the United States by the Massachusetts Society for the Promotion of Agriculture, and let out to the farmers of the state to improve the native cattle.

Ayrshire cattle found a congenial climate in Canada and New England and were able to adapt themselves to their natural surroundings in their new homes without any great change in acclimating, and have steadily found increasing favor in any section where they have been introduced for a dairy cow, and particularly where the food supply is limited and economy of production is an object.

DESCRIPTION.

The Ayrshire is generally red and white, spotted, the proportion of red and white varying according to the taste and choice of the breeder in mating.

White is easily obtained and unless care is exercised the Ayrshire cow will in a few generations revert to white, due no doubt to her having descended from the white cattle of ancient Scotland. The Scotch breeders seem to prefer white and the Canada breeders also



MAJOR ACME, 6517.

amount of latent energy towards the production of milk if favorable opportunity be granted. She is a handsome and attractive cow to look at, being symmetrical and shapely, well formed in all her lines and a typical dairy cow. She has a small bony head, large muzzle, wide forehead, dished face, prominent eyes, large and brilliant, small slim neck, thin shoulders at the top, wide through the region of the heart and lungs, large barrel with ribs well sprung, heavy hind-quarters, broad hips, thin at the thigh with large udder capacity, shapely and with large teats of fair length well spread on the four corners of the udder, and level between the teats both on the length and width, the udder extending well forward and back without too much pendulence, large milk veins and holes.

While an Ayrshire cow should be shapely and handsome to look at as she stands or walks, she should, when handled, reveal much looseness of vertebra, flatness of rib and width between the ribs, indicating large dairy capacity.

The Ayrshire is a vigorous feeder with a voracious appetite, and not dainty as to the quality of her food, being always hungry and a rapid feeder. In the pasture she takes everything that comes in her way, good and poor, so as it is filling, and is a good browser.

Having got her fill she unremittingly chews her cud, and that with a seeming nervous haste to get it finished, and when not actually taking in food is constantly chewing whether lying still or walking and I have often seen them chewing while on the run.

It is, perhaps, these traits as much as anything, that make an Ayrshire always look well-fed and give a lot of milk, for she improves every opportunity to take in supplies and utilizes every particle of her food for the

utmost there is in it and spends no time hunting around for the tit-bits of the barn or pasture.

The Ayrshire cow is a very intelligent animal, quick to learn and of a retentive memory.

In the stable she readily learns to take her own stall and will always take the same one until changed to another.

She is quiet and pleasant to milk and not particular who milks her and gives her milk down rapidly and fully in a short time and is done. She is not easily disturbed by commotion in the stable, and people or noise in the stable seem to make no difference with her giving down her milk.

AS A MILK COW.

While the Ayrshire may be used as a profitable butter cow her best and most profitable place is in producing milk for town and city trade and it is here she finds no rival in producing a quality of milk up to standard and for the least outlay for food consumed. Besides the ability to produce milk cheaply and of a superior quality she produces a large quantity and holds out for a long period with a uniform flow, and unless care is exercised she will not go dry at all.

Her milk is in itself peculiarly adapted to the needs of a milkman, bearing transportation without churning to butter, having "a good body" and not looking thin and blue.

The cream being in small globules does not readily rise and when cold if poured two or three times back and forth from one can to another will thoroughly remix and will not readily rise again, making a good milk to peddle and attractive to consumers because, even to the last poured out of a pitcher, it will retain its uniform richness.

The quality of Ayrshire milk makes it a desirable food, especially for invalids with weak digestive organs, and a complete food for children.

The reason for this is that the butter-fat and casein is evenly balanced and the curd is friable, making it easily digested.

The following official test made at Brantford, Ont., between an equal number of Ayrshire and Jersey cows is a good illustration of the food value of the Ayrshire milk as compared with the Jersey. Notice that while the Jersey is higher than the Ayrshire in butter-fat it is lower in solids not fat, also in total solids, so that while the Jersey would give a thicker cream or make more butter, it is not as rich in casein, and not as nutritious as a food. It is a settled fact that fat has no nutritive value, also that milk containing an excess of fat is more indigestible and causes serious disorders in the digestive organs of children and young calves.

Breed	Lbs. solids not fat.	Lbs. fat	Total solids
4 Ayrshires,	21.608	8.847	30.455
4 Jersey,	19.725	10.680	30.405

The average Ayrshire cow will give about 6,000 pounds of milk in a year, or about 3,000 quarts, on fair food, but selected cows on better food will give much more than this, and the following records, taken from reliable sources, show the milking capacity of the best of the breed:

Ayrshire Milk Records

PRIVATE TEST.

The following are yields of milk that have been reported of 9,000 pounds and over for 365 consecutive days :

Name	No.	Lbs. milk
Sheba	11931	9043
Belle Hebron	13013	9084
Nancy B 2d.....	11936	9096
Clover Leaf 2d.....	12681	9142
Roxie.....	4498	9191

Name	No.	Lbs, milk
Yuba Lass	12353	9237
Rose Deruth.....	10346	9253
Lady Teazle.....	6579	9268
Rose Alta	9529	9307
Murrilla.....	13376	9333
Betty Lightfoot.....	7498	9394
Clanwood.....	11103	9401
Acelista.....	12094	9407
Diannalynne	11109	9418
Olah.....	11471	9490
Yucca	11470	9496
Nett 3d.....	12647	9538
Rose Sultana	12072	9603
Annie Bert	9670	9613
Freda	11134	9615
Comla.....	8396	9620
Belle Temple	3353	9624
Roxanna 5th.....	4606	9671
Rose Erica	12775	9893
Island Belle.....	1292	9982
Biona.....	12351	10024
Vinewood Queen.....	8092	10026
Ethel Douglas 2d.....	2342	10066
Queen of Ayr 3d.....	4464	10143
Xoa	11469	10155
Rose Electa.....	10336	10207
Fernleaf.....	8997	10252
Rose Eola.....	8510	10323
Jennie Clyde	12028	10344
Queen of Ayr 4th.....	4465	10426
Nellie Clyde.....	12723	10507
Queen of Ayr.....	1766	10632
Rose Deross.....	10347	10645
Duchess of Smithfield.....	4256	10748
Ellen	8324	10823
Queen of Ayr 6th.....	4881	10989
Meewe	11130	11252
Lady Murcia.....	11111	11543
Queen of Ayr 5th.....	4466	11801
Manton Queen 4th.....	6600	12162
Lukolela	12357	12187
Lady Fox.....	9669	12299

OFFICIAL TESTS

of the quantity of milk given in one year of 10,000 pounds and over :

Name	No	Lbs, milk
Ruth.....	4816	10219½
Queen Mary.....	6578	11154
Myra	2955	11908
Rena Myrtle.....	9530	12172
Alice Douglas	4398	12617

OFFICIAL YIELDS

of milk for one month of 1,200 pounds and over :

Name	No.	Lbs. milk
Simplicity	12560	1210
Olah.....	11471	1236
Banjo Music.....	13527	1280
Xoa	11469	1291
Himona	13032	1294
Rose Drummond.....	10173	1301
Rose Cleenna.....	11153	1309
Collinwood	11404	1311
Cad's Beauty	13606	1428
Acelista	12094	1441
Hornell Girl.....	13993	1458
Durwood	12680	1477
Miss Ollie	12039	1649

At the Pan-American Model Dairy the Ayrshire stood second in quantity of milk and profit on milk.

BUTTER.

The Ayrshire cow being so much sought after as a milk producer for the milkman, has had hardly a chance to show what she is capable of doing as a butter producer, but from the few experiments made she seems to be a natural butter cow and it looks as though if any effort were made in selection and breeding, with the idea of developing her latent butter quality, that she would easily push the so called butter breeds and possibly lead them.

The following are illustrations of her butter ability collected from various sources :

Ayrshire Butter Records.

PRIVATE TEST.

There is a long list of records of 300 pounds and over but we have given only those reported as 400 and over :

Name	No.	Lbs. butter
Aunt Abbie.....	13220	402
Rose Clovis.....	12777	402
Queen Selga	9545	404
Rose Veritas	12076	405

Name	No.	Lbs. butter
Olah.....	11471	412
Freda.....	11134	413
Biona.....	12383	413
Nancy B 2d.....	11936	414
Annie Bert	9670	417
Printsteps 2d.....	8410	418
Mexic.....	11131	419
Yuba Lass	12353	419
Rose Alta.....	9529	420
Rose Sultana.....	12072	421
Minnehaha 3d	12646	424
Ruth	4816	425
Nett 3d.....	12647	432
Sheba.....	11931	434
Acelista.....	12094	438
Clio Rose.....	7525	441
Yucca.....	11470	444
Lovely	9596	448
Rose Clenna.....	11153	455
Miss Ollie.....	12039	458
Rose Ladye.....	11158	463
Rose Electa.....	10336	467
Iola Lorne	12773	474
Xoa.....	11469	475
Miss Olga.....	13984	491
Rose Erica	12775	504
Lukolela	12357	543
Meewee.....	11130	567
Rose Deross.....	10347	572
Lady Fox.....	9669	624

Private Tests for Butter for One Week and One Month

Name	No.	Lbs. butter
Quess 2nd.....	3120	14.6 in seven days
Rosa.....	3143	14.15 "
Bessie Bell 3d	4323	15.4 "
Tempie	3263	15.6 "
Juniper 4th	4578	17.11 "
Duchess of Smithfield...	4256	19.6 "
Rose Cleon	11143	49.8 in Jan., 1897
Rose Electa	10336	57.8 "
Rose Sultana	12072	64.0 "
Rose Ladye.....	11158	78.4 "

Ayrshire Butter Records

OFFICIAL TEST

of pounds of butter for seven days :

Name	No	Lbs. butter.
Rose Clenna	11153	12.27
Diannalyne.....	11109	12.44

Name	No.	Lbs. butter
Lady Sears.....	12641	12.45
Sadie Pascott	11483	12.56
Rose Allie.....	11154	12.67
Olah	11470	12.69
Cremona	11436	12.74
Miss Edna.....	13218	12.76
Printsteps 8th.....	12643	12.76
Hersa	11204	12.78
Rose Sultana.....	12072	12.86
Iona S.....	12350	13.02
Aunt Abbie.....	13220	13.19
Xoa	11469	13.78
Clem.....	11135	14.14
Nonpariel Myra.....	14707	14.34
Lady Murcia.....	11111	14.67
Ouija	11882	15.40
Yuba Lass.....	12353	15.60
Lady Fox.....	9669	16.08
Ryan	12358	16.10
Annie Bert	9670	16.31
Nett 3d.....	12647	16.44
Miss Olga	13984	16.70
Miss Ollie.....	12039	17.85
Lukolela.....	12357	18.98

Official Yields of Butter

for one month, during the year 1901, of 50 pounds or over :

Name	No.	Lbs. butter.
Rose Clenna.....	11153	50.41
Printsteps 8th.....	12643	51.02
Xoa	11469	51.20
Rose Clenna.....	11153	51.29
Annie Bert.....	9670	51.45
Durwood.....	12680	51.80
Gebic	13981	52.38
Ponemah.....	13983	52.90
Ryan.....	12358	53.06
Acelista	12094	53.08
Rose Clenna.....	11153	53.45
Acelista	12094	53.80
Miss Ollie	12039	54.24
Hinda Douglas.....	14703	54.62
Roanette.....	11476	54.88
Cad's Beauty.....	136 6	54.91
Lady Romona.....	14085	56.19
Printsteps 8th.....	12643	56.74
Himona	13032	58.12
Simplicity	12560	59.28
Collinwood	11404	59.65

Name	No.	Lbs. butter
Himona	13032	59.69
Miss Ollie	12039	60.42
Cad's Beauty	13606	61.23
Durwood.....	12680	63.76
Durwood.....	12680	68.12
Rose Clenna.....	11153	71.65
Banjo Music	13527	71.73
Miss Ollie	12039	77.30
Miss Ollie	12039	90.42
Cad's Beauty	13606	96.66

Ayrshire Butter Records

OFFICIAL TESTS FOR ONE YEAR.

Name	No.	Lbs. butter
Acme 5th	10342	386
Nancy B.....	9581	416
Atalanta.....	10777	429
Rena Myrtle	9530	546

BEEF.

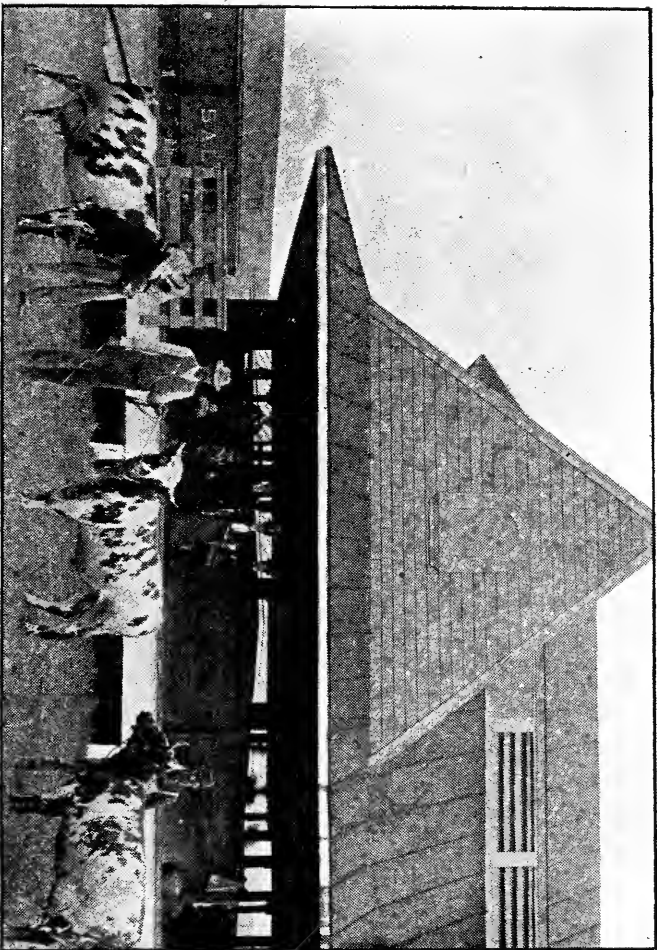
The Ayrshire, being a dairy breed, does not, of course, excel as a beef producer, but is the best for beef of all the dairy breeds.

She has heavy hind quarters, thick loins, flesh finely marbled, small bones, light in the cheaper parts, and, as the butchers say, "cuts up well," and at any time when fattened will give enough beef of good quality to pay for her raising.

I am told that the steers, full-blood and grades, make profitable steers for feeding.

Mr. F. S. Fulmer, of Gibbon, Nebraska, in a paper on "The Ayrshire cow," read before the Nebraska Dairyman's Association, said :

"The fattening quality of Ayrshire grades is reported by Mr. J. A. Patterson of this state. He says : 'I am wintering on my farm seventy steers coming two years old. Among them are high grade Shorthorns. They will average 950 pounds but are thin in flesh. High grade Ayrshires that will average fully 900 and are fat enough for good beef. Polled Angus or Galloways, about the size of the Ayrshire steers are fat.



GLADYS DRUMMOND, 11800. NOXEMALL, 7312. VIOLA DRUMMOND, 11779.



KLONDIKE KING, 6790,

Also a few Jersey steers that will average about 600 pounds and are poor. They are all fed together at stacks and about ten pounds of corn per day each." Mr. P. adds; "This feeding, I think, is a fair test and proves beyond a doubt that for common purpose cattle that will receive the care of the average western farmer the Ayrshire or Polled Angus are by far the best.' "

An Ayrshire will always weigh more than its looks would indicate.

TOP CROSS.

The Ayrshire makes a favorite top cross on high-grade and unregistered Jerseys. Those who have tried it claim the offspring to be larger than the Jerseys, more hardy and having a stronger constitution, and as dairy cows they give more milk and are more profitable.

On the native they make a profitable market cow and grade Ayrshire cows are always in demand.

On the milking Shorthorn they make the ideal market cow and command the highest market price.

Ayrshire cows, high grades and full blood, are eagerly sought for in the cow markets of the city on account of their always having a milky look.

Official Dairy Tests Between Ayrshires and Other Breeds

At the New Hampshire Experiment Station, with four cows of each breed, the average results for a full year's test was as follows :

	Ayrshire	Jersey	Holstein
Pounds of milk	5,845	4,847	5,971
Pounds of butter.....	267	269½	207
Per cent. of butter-fat	4.28	5.12	3.15
Cost of keeping.....	\$44.48	\$46.49	\$50.12
Pounds of milk to pounds of butter ...	21½	18	29

At the British Dairy show in 1879, twelve samples of milk were tested representing seven different breeds and three crosses. One Ayrshire, three Jerseys, one Guernsey, one Kerry, one Dexter, one Brittany and two Dutch cows. Highest on the list ranked the Ayrshire, showing the least water and most fat, followed

in turn by the three Jerseys and the others in the order named above.

The Ayrshire gave 5 1-2 per cent. butter fat, and the Dutch cows only 2 1-4 and 2 1-2 per cent. butter fat.

At the same show in 1880, an Ayrshire in competition with eighteen other cows of noted breeds, yielded twenty-five pounds and two ounces of milk and in pure butter fat 6.82 per cent., and was only beaten by a Jersey with 7.78 per cent., which, however, only yielded for the day sixteen pounds of milk.

In the report of the New Jersey Experiment Station, experimenting for the most of the time with three cows of each of the following breeds, the average cost of food per quart of milk was: Ayrshire, 1.66 cents; Guernsey, 1.71 cents; Holstein F., 1.75 cents; Jersey, 1.91 cents; Shorthorn, 1.71 cents.

In a milking contest at Bristol, Eng., 1887, under the direction of Dr. Voelker, an Ayrshire won, with 105.98 points over four competitors, one of which was a Guernsey.

Some comparative statements come to hand from Canada, at Ottawa, in 1888, in the milch cow competition between Ayrshires, Jerseys, Shorthorns and Grades; the Ayrshires won 1st, and at Quebec, an Ayrshire cow scored 98.95 and took 2d and 3d prizes, while the Jersey that took 1st scored but a trifle more.

At the Dairy test at the New England Fair at Old Orchard in 1900, open to all breeds or natives, for the largest quantity of milk and butter from a herd of five cows for one day the following was the result:

5 Holsteins gave.....	225¾	pounds of milk.
5 Ayrshires gave	197½	“ “
5 Devons gave.....	149¼	“ “
5 Ayrshires gave.....	8.14	pounds of butter.
5 Holsteins gave.....	7.85	“ “
5 Devons gave.....	6.34	“ “

Some interesting tests have recently been made at the New York Experiment Station at Geneva, which go to show the value of this cow's milk, and the peculiarities above mentioned. And from the tables given in the published bulletin we gather the following figures :

POUNDS OF FAT IN 100 POUNDS OF MILK.

Month of milking	Ayrshire	Guernsey	Holderness	Holstein	Jersey
1.....	3.53	6.14	5.04	4.18	6.10
2.....	3.48	5.13	3.61	3.59	5.27
3.....	3.40	4.61	3.37	4.86	5.18
4.....	3.40	4.63	3.44	3.64	5.75
5.....	3.68	5.00	3.33	3.41	5.68
6.....	3.53	4.93	3.33	3.56	5.73
7.....	3.83		3.35	4.18	5.72
8.....	3.93		3.49	3.72	5.80
9.....	4.10		3.59	3.70	5.76
10.....	4.33			3.65	

These figures are extremely interesting as showing the uniformity of the Ayrshire milk and the gradual increase in the fat as the time of milking is extended. This is specially useful in milk that is used for the domestic purpose above referred to, as the infant, increasing in age, will require a stronger milk, as it is more fully able to digest it, and variation in the quantity of food for an infant is to be most carefully avoided as highly injurious. And further, as the milk lessens in quantity as the time of milking lengthens, the proportion of fat increasing equalizes the product, and the butter keeps up in quantity, while the amount of cheese will also be increased by the increase in the milk solids, of which the fats are the most valuable. Moreover, the milk of Ayrshires is found, contrary to all previous supposition, to lose less of the fat in the skimming than the vaunted "butter cows." The following table shows this :

POUNDS OF FAT IN 100 POUNDS OF SKIMMED MILK.

Month of milking	Ayrshire	Guernsey	Holderness	Holstein	Jersey
1.....	0.35	0.16	0.63	0.58	0.44
2.....	0.28	0.18	0.42	0.78	0.40
3.....	0.42	0.23	0.38	0.74	0.25
4.....	0.38	0.21	0.42	1.45	0.25
5.....	0.42	0.20	0.43	0.50	0.41
6.....	0.40	0.37	0.36	0.70	0.52
7.....	1.00		0.33	0.51	0.31
8.....	1.17		0.44	0.53	0.29
9.....	0.83		0.56	0.83	0.38
10.....	1.19				

These figures will surprise those who have all along held that as the milk of the Ayrshire has smaller fat globules than any other milk, it would necessarily hold more of them in the skimmed milk on account of the difficulty of their separation while the milk is standing for the cream to rise, and that as the Jersey milk has much larger globules, that milk should separate from the cream so much more easily. But the very reverse seems to be the case, and the loss of fat in the skimmed milk is less in that of the Ayrshire than in any other cow except the Guernsey, and is precisely the same as that of the Jersey, taking an average. So that for butter making for which the Ayrshire has been held to be inferior, the cow stands equal to any in respect of the ease and completeness for raising the cream. Two more tables may be given and are worthy of study.

	Ayrshire	Guernsey	Holderness	Holstein	Jersey
Pounds milk for pound butter.....	29.40	18.40	28.20	40.00	17.50
Pounds milk for pound cream.....	5.28	3.73	7.89	7.57	4.01
Pounds cream for pound butter.....	4.73	4.86	5.81	5.05	4.40
Per cent. fat in cream	19.50	18.08	18.05	20.47	21.00

The Ayrshire seems to stand third in this list, but when the next table is studied it will be seen that the

largest product of milk puts her at the head of all cows except the especially rich buttermakers, the Guernsey and Jersey :

MONTHLY YIELDS.

	Ayrshire	Guernsey	Holdern's	Holsteins	Jersey
Pounds of milk.....	617.9	494.7	488.8	783.1	480.6
Pounds of skimmed milk	518.4	360.7	392.2	675.1	358.7
Pounds cream.....	99.5	134.0	85.6	108.0	131.9
Pounds of buttermilk..	77.9	106.9	68.7	86.5	94.3
Pounds fat in milk.....	21.7	24.8	17.4	28.4	26.7
Pounds fat in butter...	18.4	23.7	14.4	17.3	23.5
Pounds of butter.....	21.6	27.1	16.9	20.5	27.6

Nothing is said about the food, but it is well known that the larger Holderness and Holstein consume fully one-half more food than the smaller Ayrshire. And when this is taken into account, it is readily perceived that the latter is far more profitable than these large breeds, and as much so as the other two, whose slightly larger product does not make up for the greater money value of these high-priced cows. It should be noticed that the smaller quantity of cream of Ayrshire milk is due to the less amount of milk in it, as shown by the small quantity of buttermilk left after churning, and the cream is, of course, richer in butter.

REPORT OF THE PAN-AMERICAN MODEL DAIRY TEST

Net profits on butter basis, by breeds for six months:

	Estimated butter	In churned butter	Cost feed	Net profit
Guernsey.....	\$230.11	\$220.37	\$136.99	\$220.37
Jersey	225.41	214.51	137.78	214.51
Ayrshire	217.91	212.91	140.98	212.91
Holstein	210.62	192.88	164.69	192.88
Red Polled.....	198.15	191.83	138.03	191.83
Brown Swiss.....	182.99	181.81	113.10	181.81
French Canadian....	176.45	176.83	147.26	176.83
Shorthorn	171.82	164.77	162.12	164.77
Polled Jersey.....	169.24	160.59	109.47	160.59
Dutch Belted.....	116.79	111.96	132.32	111.96

Net profits in total solids by breeds for six months :

Breed	Total solids		Cost feed	Net profit
	Lbs.	Value		
Holsteins.....	4742.57	\$426.83	\$164.69	\$262.14
Ayrshires.....	4185.30	376.68	140.98	235.70
Brown Swiss.....	3943.92	354.95	147.26	207.69
Guernseys.....	3774.93	339.74	136.99	202.75
Red Polled.....	3773.73	339.64	138.03	201.61
Jerseys.....	3769.98	339.30	137.78	201.52
Shorthorns.....	4086.53	367.79	162.12	305.67
French Canadians..	3287.36	295.86	113.10	182.76
Polled Jerseys.....	2831.67	254.85	109.47	145.38
Dutch Belted	3066.47	275.98	132.32	143.66

Net profits in estimated butter and total solids combined, for six months.

Holsteins	\$472.77
Ayrshires	453.78
Guernseys.....	432.67
Jerseys.....	426.03
Red Polled.....	399.30
Brown Swiss	390.50
Shorthorns	377.45
French Canadians.....	358.28
Polled Jerseys.....	314.42
Dutch Belted.....	249.39

PRODUCTION OF MILK SOLIDS AND LIVE WEIGHTS.

Breed	Total Solids		Live weight		Total credit	Cost feed	Net profit
	Lbs.	Value	Gain	Value			
Holsteins	4742.57	\$426.63	391	\$11.73	\$438.56	\$164.69	\$273.87
Ayrshires	4185.30	376.68	218	6.54	383.22	140.98	242.24
Shorthorns.....	4086.58	367.79	802	24.06	391.85	162.12	229.73
Brown Swiss...	3943.92	354.95	198	5.94	360.89	147.26	213.63
Red Polled	3773.73	339.64	349	10.47	350.11	138.03	212.08
Guernseys	3774.93	339.74	195	5.85	345.59	136.99	208.60
Jerseys.....	3769.98	339.30	189	5.67	344.97	137.78	207.19
French C'n'dian	3287.36	295.86	288	8.64	304.50	113.10	101.40
Dutch Belted....	3066.47	275.98	376	11.28	287.26	132.32	154.94
Polled Jerseys..	2831.67	254.85	275	8.25	263.10	109.47	153.63

COST OF BUTTER AND PROFITS.

	Cost per lb. of butter.	Profit for every dollar invested in food.	
		Butter fat.	Butter.
Guernseys	9.31 cents	\$1.67	\$1.60
Jerseys	9.48 "	1.63	1.55
French Canadians	9.76 "	1.55	1.60
Polled Jerseys.....	9.80 "	1.54	1.46
Ayrshires.....	9.81 "	1.54	1.51
Red Polled.....	10.27 "	1.43	1.39
Holsteins.....	10.93 "	1.27	1.17
Brown Swiss.....	11.14 "	1.24	1.20
Shorthorns.....	12.10 "	1.06	1.01
Dutch Belted.....	13.27 "	.86	.84

FINAL REPORT OF THE TEN BREEDS OF COWS

REPRESENTED IN SIX MONTHS' TEST AT PAN-AMERICAN, SHOWING YIELDS AND PROFITS
IN THE FOUR POINTS ON WHICH PRIZES WERE GIVEN.

Breed	Lbs. milk	Per cent. fat	Estimated butter lbs.	Value butter	Churned butter lbs.	Value	Per cent total solids	Value total solids	Gain in live weight lbs.	Cost feed	Profit on estimated butter	Profit on churned butter	Profits on total solids	Profit on total solids plus gain in live weight
Holstein.....	39260.2	3.25	1501.0	375.25	1430.3	357.57	12.	426.80	391	164.69	211.04	192.88	262.64	274.37
Ayrshire.....	32998.2	3.69	1434.7	358.67	1415.6	353.90	12.6	376.68	220	140.98	217.70	212.92	235.70	242.30
Shorthorn.....	31885.6	3.57	1339.6	334.90	1307.5	326.89	12.8	367.79	802	162.12	172.81	164.80	196.79	220.85
Brown Swiss..	30892.6	3.63	1321.35	330.34	1296.4	324.10	12.7	354.93	198	147.26	183.08	176.84	207.67	213.61
Red Polled....	28694.9	3.98	1343.3	335.85	1319.45	329.86	13.1	339.64	349	138.03	197.82	191.83	201.61	212.08
Guernsey.....	27127.6	4.60	1468.3	367.10	1429.4	357.36	13.9	339.75	195	136.99	230.11	220.37	202.89	207.65
Jersey	26987.1	4.58	1453.0	363.25	1403.1	352.28	13.6	339.30	189	137.74	225.54	214.54	201.56	207.23
Fr Canadian..	24664.7	3.99	1157.7	289.45	1179.6	294.91	13.3	295.85	288	113.10	176.35	181.81	182.75	191.39
Dutch Belted...	24893.5	3.4	997.0	249.25	977.1	244.27	12.3	275.97	376	132.32	116.89	111.91	143.61	154.89
Polled Jersey...	20328.8	4.66	1115.6	278.90	1080.25	270.06	13.9	254.84	275	109.47	169.61	160.59	145.43	153.68

FINAL REPORT OF THE SIX MONTHS' DAIRY TEST AT PAN-AMERICAN

PLACING THE FIFTY COWS IN THE ORDER OF THEIR
NET PROFIT ON ESTIMATED BUTTER.

The tabulation published on next page, and placing the fifty cows in the order of their net profit on estimated butter, makes an interesting study, and many valuable lessons may be worked out from it.

One of the most valuable things to be learned from it is the very wide difference in the performance of individuals of the same breed. If five individuals of each of these breeds, gotten together in most cases after considerable search and pretty careful selection among the available animals by men supposed to be good judges, show such a great range in earning capacity as we find here, what must be the case in the herds of even our most intelligent farmers who have been too busy or too indifferent to apply the test and scales to the individuals of their herds.

No. of position	Name of cow	Bred	Lbs. of milk	Per cent. fat	Lbs. of estimated butter	Value of butter at 25 cents per ton	Cost of hay fed at \$7 per ton	Cost of silage fed at \$2 per ton	Cost of grain fed	Total cost of feed	Profit on butter at 25c a lb.	Wt. of cow May 1st	Gain in wt. during test
1	Mary Marshall	Guernsey	5611.0	5.36	354.26	\$88.56	\$6.63	\$4.34	\$18.19	\$29.16	\$59.40	987	64
2	Mayflower	R. Polled	6161.5	4.45	323.15	80.79	5.70	4.73	18.26	28.69	52.10	1134	66
3	Cassiopeia	Guernsey	6270.1	4.26	315.01	78.75	6.66	4.14	17.60	28.40	50.35	1019	24
4	Primrose	Jersey	4639.4	5.64	308.24	77.06	5.41	5.09	16.31	26.81	50.25	992	54
5	Procris of P.	Guernsey	5992.6	4.43	313.10	82.00	6.63	4.47	18.71	28.78	49.49	869	1
6	Beauty of N.	Holstein	8140.7	3.42	328.01	74.63	5.88	5.08	20.14	32.65	49.35	1017	64
7	Queen May	Jersey	5343.1	4.74	298.54	74.64	5.56	5.44	16.53	27.17	47.46	974	42
8	Betsy 1st	Ayrshire	7041.5	3.59	298.57	74.64	6.18	5.44	16.95	28.57	46.07	973	25
9	Pearl of W.	Ayrshire	6730.8	3.74	296.07	74.02	6.18	5.44	16.94	28.56	45.46	912	80
10	Kirsty Wallace	Ayrshire	6469.7	3.83	292.31	73.08	5.89	4.96	16.89	27.74	45.34	966	44
11	Gipsy	Jersey	5790.3	4.4	300.21	75.05	5.54	5.09	19.64	30.27	44.78	1004	loss 7
12	Mossy of H.	Jersey	5762.4	4.27	290.00	72.50	5.48	5.09	17.53	28.01	44.49	822	67
13	Hulda Wayne	Holstein	8040.7	3.23	305.79	76.45	6.62	5.58	20.20	32.40	44.05	989	55
14	Susie	R. Polled	6430.1	3.8	287.5	71.87	5.96	5.10	17.01	28.07	43.80	1187	38
15	Miss Molly	Shorthorn	6894.1	3.71	301.47	75.37	7.23	4.96	20.17	32.36	43.01	1075	134
16	Queen	P.L. Jersey	4010.	5.63	265.98	66.49	6.27	3.80	13.53	23.60	42.89	648	101
17	Alice 2d	Ayrshire	6127.9	3.91	282.15	70.54	6.18	5.43	16.68	28.29	42.25	1054	82
18	Vega	Guernsey	5029.1	4.59	271.64	67.91	6.95	4.60	14.61	26.6	41.75	1094	76
19	Belle T.	Br. Swiss	5789.6	4.09	278.45	69.61	7.76	4.32	16.30	28.38	41.23	1039	loss 7
20	Tidy Abbecker	Holstein	7659.1	3.28	296.00	74.00	6.63	5.96	20.38	32.97	41.03	1008	101
21	Denise Champ'ne	Fr. Can.	5404.2	4.03	256.63	64.16	5.08	4.79	13.65	23.52	40.64	750	64
22	Ronen	Fr. Can.	257.20	4.46	257.20	64.30	5.07	4.91	13.70	23.68	40.62	794	27
23	Eliza	Br. Swiss	6407.9	3.8	286.89	71.72	6.36	5.29	19.47	31.12	40.60	1273	2
24	Inka Mercedes	Holstein	8028.3	3.05	238.34	72.08	6.63	5.60	20.22	32.45	39.63	915	72
25	Liena Flory	Fr. Can.	5458.0	3.92	252.54	63.13	5.07	4.91	13.74	23.72	39.41	1030	63

No. of position	Name of cow	Breed	Lbs. of milk	Per cent. fat	Lbs. of estimated butter	Value of butter at 25 cents	Cost of hay fed at \$7 per ton	Cost of silage fed at \$2 per ton	Cost of grain fed	Total cost of feed	Profit on butter at 25c a lb.	Wt. of cow May 1st	Gain in wt. during test
26	Ova	Pol. Jersey (2)	4804.8	4.4	249.86	\$62.34	\$6.28	\$4.03	\$12.86	23.17	\$39.17	1013	loss 17
27	Pride's Favorite	Pol. Jersey (3)	4569.1	4.6	247.71	61.93	7.02	3.57	13.38	22.97	38.96	665	loss 71
28	Lady Flora	Ayrshire (5)	6626.3	3.4	265.51	66.38	5.86	5.13	16.69	27.68	38.70	1105	loss 13
29	Rexina	Jersey (5)	5451.9	3.98	256.01	64.00	5.50	5.19	14.79	25.48	38.52	933	loss 33
30	Easter	R. Polled (3)	6058.7	3.70	263.96	65.99	5.81	5.03	17.83	27.83	38.16	834	loss 99
31	Belle of Warwick	D. Belted (1)	5313.2	4.15	259.80	64.95	5.60	3.93	17.40	26.93	38.02	935	loss 83
32	Hope of Minn.	Br. Swiss (3)	6117.0	3.61	259.85	64.96	8.10	2.52	16.98	27.60	37.36	1015	loss 54
33	Meg	Holstein (5)	7391.0	3.25	282.84	70.71	6.62	5.97	21.52	34.11	36.60	1314	loss 99
34	Queen Bess	Shorthorn (2)	6547.9	3.57	275.21	68.80	7.21	5.30	19.98	32.49	36.31	1105	loss 192
35	Princess of Thule	Shorthorn (3)	5885.7	3.82	264.79	66.20	7.20	5.31	19.98	32.49	33.71	1261	loss 132
36	Luey B	Br. Swiss (4)	6356.2	3.45	258.13	64.53	7.80	5.12	18.09	31.01	33.52	1193	loss 84
37	Phyllis	Pol. Jersey (4)	443.0	4.38	228.12	57.03	6.31	3.75	13.77	23.83	33.20	799	loss 59
38	Luna	Fr. Can. (4)	5049.5	3.79	225.03	56.26	5.20	4.89	13.43	23.52	32.74	760	loss 102
39	Flora	R. Polled (4)	4628.4	4.29	233.55	58.39	5.70	4.77	15.79	26.28	32.11	1068	loss 102
40	Tryste	R. Polled (5)	5416.2	3.68	234.97	58.74	5.75	4.86	16.54	27.15	31.59	1036	loss 44
41	Rose 3d.	Shorthorn (4)	6492.8	3.31	253.35	63.34	7.21	5.13	19.98	32.37	30.97	1105	loss 125
42	Nicola	Br. Swiss (5)	6220.8	3.25	238.12	59.53	7.80	5.17	16.25	29.18	30.35	1208	loss 65
43	Medora Fern	Guernsey (5)	4224.8	4.36	214.87	53.72	6.92	4.61	12.83	24.36	29.36	958	loss 30
44	Daisy D.	Shorthorn (5)	6054.4	3.43	244.74	61.18	7.21	5.05	20.12	32.38	28.80	1161	loss 219
45	Madeline	D. Belted (2)	5661.0	3.23	215.26	53.81	5.52	3.96	17.10	26.66	27.15	1028	loss 77
46	Holland C.	D. Belted (3)	5287.3	3.36	209.51	52.38	6.26	3.76	16.59	27.21	24.17	806	loss 90
47	La Bouchette	Fr. Can. (5)	3849.6	3.67	166.38	41.59	5.05	4.39	8.81	18.65	22.94	647	loss 32
48	Justina	Pol. Jersey (5)	2465.0	4.31	124.95	31.24	6.17	3.99	5.68	15.84	15.40	913	loss 61
49	Merletta	D. Belted (4)	4715.4	3.2	170.03	42.51	7.27	4.47	16.71	27.45	15.06	948	loss 114
50	Alberta	D. Belted (5)	3916.6	3.09	142.42	35.60	6.21	4.46	13.39	24.11	11.49	1147	loss 12

The following tabulation gives the best and poorest cow, from the standpoint of profit on butter-fat, in each breed, with the number of position, average fat test, cost of feed, and net profit:

Breed	Cow	No.	Test	Cost feed	Profit
Guernsey.....	Mary M	1	5.36	\$29.16	\$59.40
	Medora F.....	43	4.36	24.36	29.36
Jersey.....	Primrose.....	4	5.64	26.81	50.25
	Rexina	29	3.98	25.48	38.52
Ayrshire.....	Betsy 1st	8	3.59	28.57	46.07
	Lady Flora.....	28	3.4	27.68	38.70
Holstein.....	Beauty	6	3.42	32.65	49.35
	Meg	33	3.25	34.11	36.60
Red Polled	Mayflower.....	2	4.45	28.69	52.10
	Tryste.....	40	3.68	27.15	31.59
Brown Swiss.....	Belle T.....	19	4.09	28.38	41.23
	Nicola	42	3.25	29.18	30.35
French Canadian	Denise	21	4.03	23.52	40.64
	La Bouchette.	47	3.67	18.65	22.94
Shorthorn.....	Miss Molly	15	3.71	32.36	43.01
	Daisy D	44	3.43	32.38	28.80
Polled Jersey.....	Queen.....	16	5.63	23.60	42.89
	Phyllis	37	4.38	23.83	33.20
	(Justina left out)				
Dutch Belted.....	Belle of W.....	31	4.15	26.93	38.02
	Alberta	50	3.09	24.11	11.49

AYRSHIRES IN THE MODEL DAIRY

(J. A. M., in Hoard's Dairyman.)

THE ACTUAL RESULTS OF THE SIX MONTHS' TEST FROM THE VIEW POINT OF THE CREAMERY AND CHEESE FACTORY PATRON.

The following summary of the results of the six months' test at the Pan-American as it appears to a creamery patron, and also the result as it appears to a cheese factory patron, must prove of especial interest, since nothing of this kind has so far been attempted. It is curious to note that the application of these two tests to the final results places the Holsteins in just the same position as given them by the authorities at Buffalo, and as the Holstein people are vainly attempting to show by various juggling of figures that their favorites should have been given first place, the following results, figured at much trouble, if not a good deal of ingenuity, on the basis of the average creamery and cheese factory during the period, show very conclusively, as far as the Holsteins were concerned, that they received the best of fair play.

If anybody has reason to growl at not receiving fair play it is the Ayrshire people. Had the milk from the Pan-American dairy been sent to an ordinary creamery, it will be seen by the subjoined table, that the Ayrshires would be given first place. If any people have reason to feel proud over the result of the test it is the Ayrshire people, for had the milk been sent to a creamery and the skim milk and butter milk returned to the patron, the aggregate results of the six months' competition places the Ayrshires ahead by more than \$3, with Guernsey second, Jersey third and Holstein fourth, although the difference between the four leading dairy herds is small.

But what is the more surprising is, that in the cheese test, that is, the application of 1901 cheese factory conditions to the six months' test, neither the Ayrshire nor the Holsteins are "in it" beside the Guernseys and Jerseys. This I feel sure will appear surprising to many of the readers of the Dairyman, who possibly may not have taken this phase of the question into consideration. I confess it was a surprise to myself, for, on reading the final results, I felt sure that had the milk from those cows been sent to a cheese factory, the Ayrshires and Holsteins would certainly come out ahead, but, appearances are deceitful, and I find by delving into the matter and analyzing the Pan-American figures, that the Ayrshires and Holsteins, notwithstanding their larger milk yield, would have been beaten by the Guernseys and Jerseys had the milk been sent to a cheese factory under the conditions prevailing during these six months.

The Pan-American test, in so far as the final results in weight of product and feed eaten, affords a splendid object lesson in the difference of breeds, or rather perhaps in the difference of individual cows, but when the authorities take upon themselves the responsibility of giving a fictitious value of 25 cents per pound to the butter and totally ignoring the by-products of skim milk and buttermilk, the final results when brought to dollars and cents, are certainly misleading and grossly unfair to the cows, or breed of cows, giving milk of low fat content, as the Ayrshires and Holsteins. It was unfair to those two breeds, further, in that no recognition was given to the large quantities of milk yielded, and consequent greater value in by-product.

A great opportunity was lost to the dairymen of America in not placing before them at Buffalo the

direct and indirect value of the by-products. In totally ignoring the skim milk and buttermilk it is difficult to see what real benefit was intended to be conferred on dairymen. And it certainly was not a breed test as the breeders of the leading dairy breeds refused to enter the competition, and if there were competing breeds in Holsteins, Jerseys, Shorthorns and Guernseys, too, they were only obtained in a surreptitious manner by the superintendent, and, for my life, I cannot see how Holstein breeders, Jersey breeders, or even Guernsey breeders can take credit for the results of the Pan-American test.

With regard to these breeds, therefore, the results at Buffalo cannot be recognized, at least by the Jersey and Holstein breeders, as a bonafide test, from the fact that if animals claiming to represent those two breeds were in competition at Buffalo, it was none of their funeral. For example: if Buffalo authorities decided to have an international competition in feats of strength somewhat after the manner of the Olympian games of the ancients, say between the Scotch, Irish, English, French, German, Dutch, etc., and the Dutch English and French or Channel Islanders refused to enter the contest on the plea that the conditions of competition were, as they thought, unfair, it would hardly be considered a test of strength.

Well, if not to be outdone in these imagined Olympian games, Supt. Converse went out into the "streets and the by-ways," as "it is written," and called in the required number of Englishmen, Dutchmen and Channel Islanders, and forthwith went on with the competition, would, I ask, the English people, the Dutch people or the Channel Island people be justified in hooting did it happen that either of the three so-called national representatives won the competition?

In answering this question I hardly think they would, neither can breeders of dairy cows representing those countries do anything except totally ignore the Pan-American test so far as their representative breeds, so-called, are concerned.

It is not, therefore, to show that any one breed, of the special dairy breeds, was better than another, that I present the following tables at all. If by my showing the Ayrshire comes out ahead in the creamery test it only goes to prove the importance of selection. Everyone knows that the headquarters, the habitat, of Ayrshires in America is in the eastern townships of Quebec and in eastern Ontario. Here may be found any day in the year the best Ayrshires perhaps in the world. From this home of the Ayrshire in the New World the Ayrshires were selected. Can as much be said of the selection of the Holsteins? Or of the Jerseys? Is it surprising then, that under creamery conditions as they obtained May 1st to November 1st, 1901, that the Ayrshires come out ahead?

In the quotations from the Pan-American, decimals and cents are dropped for convenience in figuring. It will be seen that although the Holsteins gave 15 lbs. more churned butter than the Ayrshires, also more solids-not-fat, the fact that they consumed \$24 worth more feed places them \$11.38 below the Ayrshires in the final profits. The average export price of creamery butter for the six months was 21 cents. Any fair minded person will see that the export price is the only just and proper basis of valuing the butter under creamery conditions. The local price at any given locality varies with that at another, and in fixing the price, 21 cents, this is the average export figure for creamery butter at New York and Montreal.

The skim milk and buttermilk is the greatest incentive to dairymen patronizing the creamery rather than the cheese factory, and at this moment and for months past the Chief of the Dairy Division, Robertson, is pushing the creamery, using the uncontrovertible argument of the value of the by-product in addition to the butter, as a feed for fattening hogs and chickens, and to this end is encouraging the dairymen to breed and feed hogs and chickens to a larger extent than ever, in order to reap the full benefits from the creamery.

To ignore the by-products, as was done at Buffalo, is incredible, particularly in a year like this when feeds of all kinds are away up. The value attached to the by-product in the following tabulated statement is 2 cents per pound for solids not fat, which is as fair as it could possibly be. On this basis the value of the Holstein by-product is shown to be \$69.34, or \$21.42 more than for that of the victorious Guernseys; and yet, though the Holsteins gave one pound more butter, in the final profits they are \$6.41 behind the Guernseys. This goes to show that unusual large milk yields are not always the more profitable, even when the skim milk and buttermilk is given full credit. The showing of the Ayrshires is indeed creditable. As an economical producer for the creamery patron she stands in the following list without a peer.

The charge of 4 cents per pound for manufacturing, marketing and delivering is the usual charge, and I am sure no one will object to this figure.

APPLYING THE CREAMERY TEST

TABLE SHOWING ACTUAL RESULTS FROM THE CREAMERY PATRON'S VIEW POINT.

Breed	Lbs. churned butter	Value butter at 21 cents lb.	Value skim milk (solids not fat at 2 cents per lb.)	Total credit	Cost of feed	Cost of making butter, etc., at 4 cents per lb.	Total cost	Net profit
Ayrshire.....	1415	\$297.15	\$59.32	\$356.47	\$140	\$56.60	\$196.60	\$159.87
Guernsey	1429	300.09	47.92	348.01	136	57.16	193.16	154.85
Jersey	1409	295.89	50.70	346.09	137	56.36	193.36	152.73
Holstein	1430	300.30	69.34	369.64	164	57.20	221.20	148.44
French Canadian	1179	247.59	46.06	293.65	113	47.16	160.16	133.49

Now we come to another phase of the dairy test, that is the

CHEESE FACTORY TEST.

This will surprise a great many readers. In this test the breeds stand just in same rank as given out by the authorities at Buffalo. I am sure few of us have ever claimed the high-per-cent-fat cow as being the best cheese producing cow, but this is just what the figures of the Pan-American results show. This was true also of the Chicago test, but the Holsteins did not compete there. In the following tabulated statement the Holsteins, though giving some 12,000 pounds more milk than the Guernseys, yet only produced 67 pounds more cheese. A surprising statement surely, but a statement borne out by facts nevertheless, and goes to show, as all up-to-date cheese factories have known and practised, that the fat test and not the pooling method is the only fair and equitable method of paying for milk for cheesemaking. It is only the back-number factories that now take milk on the pooling, or "weight of milk" method. It assumed, and fairly, that 2 1-2 pounds cheese are made out of 1 pound fat. On this basis the breed that was considered a special cheese cow, the Ayrshire, comes third in the list. She produced less cheese than the Jerseys or Guernseys, and at a greater cost per pound.

In arriving at a fixed price for the cheese, the same basis of comparison as for butter was taken, viz: the average export price for the season. This price is 9 cents per pound. The whey of course is assigned a value as it is at all factories, or why would the patrons take it away at all. Whey is variously assumed to be worth from two-fifths to three-fifths the value of skim milk. The whey from cows giving rich milk is

assumed to be worth slightly more than that from cows giving poor milk.

In this case, in assigning a value to the whey, I took what I thought the fairest method of all, viz : by rating one pound of total solids equal to .6 cents in whey equivalent. Multiplying the total solids by \$.006 gives us the money value of the whey. By this method the value of the whey from the Guernseys is seen to be \$22.64, while that from the Holsteins is \$28.45.

The trouble with the Holsteins, that is if these at the Buffalo test are representatives, seems to be that they are not economical producers. They require too much food to produce and appear to be in no sense as economical producers for the quantity of milk given as the Ayrshires. In order to produce 140 pounds cheese in excess of the Ayrshires they required \$24 worth more feed. The usual factory charge of 2 1-4 cents is charged for manufacturing, milk drawing and marketing the cheese. The other breed mentioned in this statement, the French Canadian, has not been referred to.

Those of this breed represented at Buffalo are certainly bona fide representatives of the breed and probably, for this reason, make a better showing than they would were they represented in the way the Holsteins and Jerseys were. In the cheese test they stand up well as economical producers while in economy of total solids they stand second only to the Ayrshires, producing total solids at a net cost of \$3.44 per pound. In percentage of profit they show 161 per cent. in total solids and 156 per cent. in butter fat. Their showing is certainly creditable.

I regret I have not the time to follow the so-called dual-purpose breeds, as the Shorthorns, Red Polls, etc. The Shorthorns should approach very closely to the Holsteins in the various phases of final profits.

APPLYING THE CHEESE FACTORY TEST

TABLE SHOWING ACTUAL RESULTS FROM THE CHEESE FACTORY PATRON'S VIEW POINT.

Breed	Lbs fat	Lbs cheese (21% lbs cheese equal to 1 lb fat)	Value cheese at 9 cents per lb	Value whey (2 cents per lb milk solids)	Total credit	Cost feed	Cost making cheese, etc (at 2 1/4 cents per lb)	Total cost	Net profit
Guernsey	1248	3120	\$280.80	\$22.64	\$303.44	\$136.	\$70.20	\$206.20	\$97.24
Jersey	1234	3085	277.65	22.61	300.26	137	69.41	206.41	93.85
Ayrshire	1219	3047	274.23	25.11	299.34	140	68.55	208.55	90.79
Holstein	1275	3187	286.83	28.45	315.28	164	71.70	235.70	79.58
French Canadian	984	2460	221.40	19.72	241.12	113	55.35	168.35	72.77

AYRSHIRE COWS

It has always been claimed by the Scotch Breeders of Ayrshires that it was necessary to return to the old country for fresh blood every now and then in order to keep up the standard of the Ayrshire cow in her highest perfection in form and dairy quality, which theory has been believed by our Canada friends, but not by the breeders of Ayrshires in the States.

It has seemed to us that we had produced a type of Ayrshire cows that held in form the original type, and had added to that a more practical addition in increased length of teat and dairy ability notwithstanding the changed conditions of the climate of the States.

It has always been conceded that the climate of Ayrshire was moister, with a greater rainfall than is found in the United States, being thereby more suited to grazing, and that the same cows gave a less quantity of milk on this side of the ocean than in their native home. This being the case it is not to be expected that with the same cows the breeders can hope to compete in yields of Ayrshire cows at the pail with the Scotch breeder, and in order to obtain an equal amount the breeder of the States must produce a cow of increased natural ability.

It is not often we can obtain comparative yields that are both authenticated and made on so similar plans as to be of value in comparison, but this year we are favored with just this in the official report of the Scotch Derby for 1901, and the Home Dairy Test in the United States for 1901.

The Scotch Derby is a competition in the County of Ayr in Scotland that is entered into by the Ayrshire breeders with great strife, because it is a hard contest both on outward shape and dairy ability. A cow is entered for the Derby and shown in the ring. Later, after she has calved and in her best form for a twenty-four hour milking trial, a committee is sent to the home of the cow without notice to the owner and she is milked clean and the milk for the next twenty-four hours is weighed and tested for butter-fat and total solids, and the award made from her product in connection with her ring examination which is

substantially the same as the Home Dairy Test of the Ayrshire Breeders' Association as far as the dairy side of the contest is concerned. A comparison of the two made in 1901 should be a very good index of the performance at the pail of the Scotch and States Ayrshires in the quiet of their own home, though in making the comparison, due allowance should be given to the natural advantage the Scotch cow has over her cousin in the States, on account of the better grazing conditions in Scotland.

For a more complete and uniform comparison I have copied the whole number of the test of the mature cows in Scotland and have omitted their report of award made by a scale of points, including the ring award, and have confined myself to the dairy award simply, and to further compare the two I have figured the butter yield of the Scotch cows on the same method as the Experiment Station figured the butter yield of the States cows, thus making the two uniform and official.

SCOTCH DERBY TEST.

Owner	Age	Lbs milk	Per cent fat	Per cent total solids	Lbs butter
William Winter.....	6	60	3.80	12.22	2.66
James Littlejohn.....	8	46.5	4.57	13.62	2.48
James Littlejohn.....	6	53	3.87	12.67	2.39
William Winter.....	4	51.50	3.77	12.67	2.27
W. C. Alexander.....	8	52.75	3.82	12.49	2.35
David Gray.....	6	44.75	3.72	13.59	1.94
W. C. Alexander.....	4	46.50	3.07	11.62	1.67
John S. Hunter.....	4	52	2.95	12.00	1.79

UNITED STATES HOME DAIRY TEST.

Owner	Age	Lbs milk	Per cent butter fat	Per cent total solids	Lbs butter
Etna J. Fletcher.....	6	47.61	5.80	12.48	3.20
L. S. Drew.....	7	54.96	4.70	13.96	3.01
C. M. Winslow & Son.....	8	39.36	5.20	14.00	2.39
Etna J. Fletcher.....	6	42.68	4.80	12.76	2.39
Etna J. Fletcher.....	8	42.80	4.40	13.01	2.26
Etna J. Fletcher.....	7	37.90	4.50	13.33	1.99
Etna J. Fletcher.....	10	42.30	3.90	12.34	1.92
L. C. Spalding & Son.....	8	39.03	4.20	13.05	1.91

The average of the above tests show the Ayrshire cow in Scotland to give more milk in a day, while the Ayrshires in the States give more butter.

Brandon, Vt. C. M. WINSLOW, Secretary.

S. M. WELLS & SON,

Wethersfield, Conn.

S. M. Wells,
Wm. T. Wells,

Ayrshires

Herd Established
1863

In securing foundation stock for our herd choice animals were selected from the most noted herds in the country and the high character of the herd has been maintained by the use of sires of superior individual merit as well as approved lineage, of deep milking ancestry, of excellent form and constitution, viz:

WAVERLY, No. 914, bred by Walcott & Campbell, New York, out of imported **WHITE LILY** by imported **BALDY**.

GIBB'S DUKE OF COMPTON, No. 2253, bred by J. L. Gibb, Que., out of imported **MAY MORN** by **PRETENDER**; he out of imported **HEATHER BLOOM**.

ROB ROY 2d, of **PARK HILL**, No. 5173, bred by Jas. Drummond, Que.; out of **LILLY D**, by **ROB ROY OF PARK HILL**; he out of **VIOLA 3D OF MILL FARM**, imported.

The Home Bred Bulls were Equally Choice.

The Bulls in Service at Present are:

GLENCAIRN OF RIDGESIDE, No. 6248, bred by Robert Reford, Que., out of the noted cow **WHITE FLOSS**, by **GLENCAIRN 3D**, imported.

ISALEIGH OSBORN OF CASTLE HILL, No. 6926, bred by J. N. Greenshields, Que., out of **THE GEM OF CASTLE HILL**, imported, by **MATCHLESS**; he out of the many times champion, **NELLIE OSBORN**, imported, by **GLENCAIRN 3D**, imported.

Consignments have been made from this herd to **MAINE** and **MEXICO** and intervening States. Also to **BERMUDA**, **CUBA** and **JAPAN** with gratifying results.

Inspection of this herd is desired and correspondence solicited.

N. B. After May 1st our address will be **NEWINGTON, CONN.**, where owners and herd will be located. Electric cars pass the farm every fifteen minutes, running between the cities of **Hartford** and **New Britain**.



